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ORIGINAL ARTICLES.

A CONTRIBUTION TO THE HISTO-PATHOLOGY AND THE THEORY OF DRUG ERUPTIONS.¹

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The major part of the material for this work was obtained some years ago at the St. Louis Almshouse, through the courtesy of Dr. Kuntz. To this institution the overflow from the St. Louis Asylum is transferred; the patients consisting mostly of epileptics, imbeciles, cases of dementia, chorea and other chronic nervous affections. At that time in this institution the administration of the iodides and the bromides, was more or less of a routine procedure, therefore it was easy to increase the dose of these drugs in certain selected cases, until a distinct drug eruption was produced. We were thus enabled to control our experiments and to obtain from these cases material for histological examination. At the time of beginning our observations, there occurred in this institution a case of the anthracoid variety of iodide of potash eruption, upon the back of one of the inmates, who had been taking large doses of the drug for some time. From this marked case, down to the smallest erythematous spot, including papules and pustules, histological material was obtained from both iodide and bromide reactions.

Since working at the Almshouse, other material has been obtained from patients in public and private work. As a preliminary to the histologic part of our paper, we might state the following clinical facts observed by us.

In the first place, it was noticed that when an iodide or bromide eruption was induced, that the most marked effect occurred upon points previously inflamed; for example, the increase of inflammatory symptoms in an old acne lesion or in an old ulcer. To prove this, small areas of skin in these cases were irritated by blisters or traumata, which seemed to attract to that point the objective phenomena of the drug eruption.

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As iodine and bromine produce similar eruptions and in this respect stand in a class by themselves, for this reason we only worked with these two chemicals.

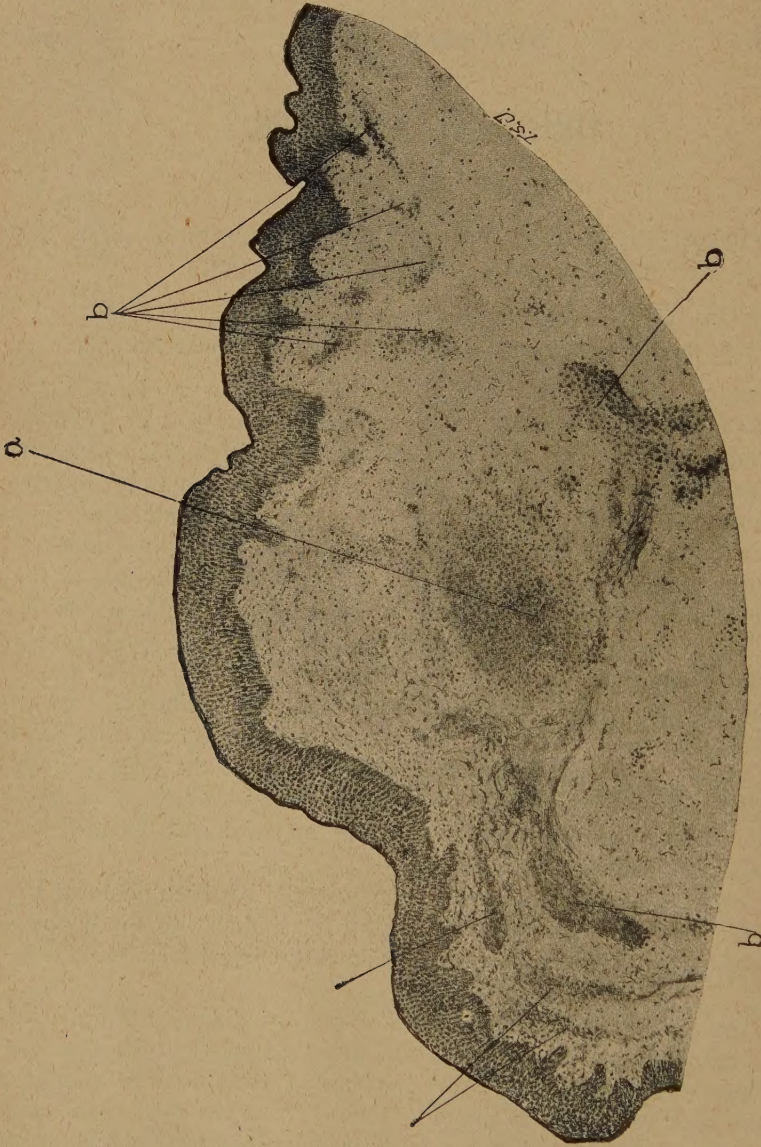


FIG. 1. a The beginning of abscess formation.
b Dilated vessels with increase of cells around them.

In the pus of the iodide lesions we were able to demonstrate in every instance iodine. The lesions produced by bromide were not satisfactorily investigated for bromine, on account of the difficulty in obtaining a chemical reaction. For the purpose of demonstrating the fact that

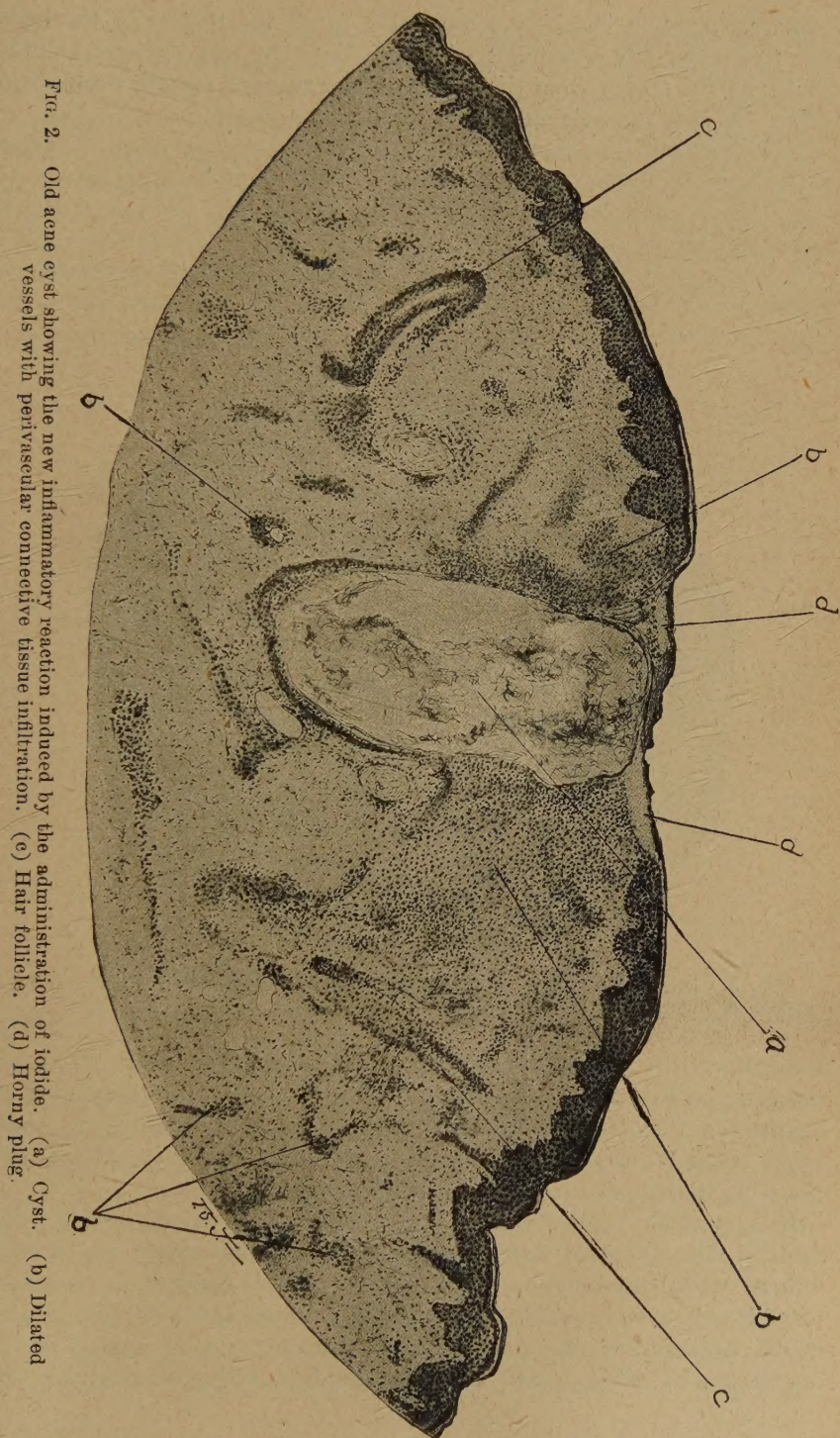


FIG. 2. Old acne cyst showing the new inflammatory reaction induced by the administration of iodide. (a) Cyst. (b) Dilated vessels with perivascular connective tissue infiltration. (c) Hair follicle. (d) Horny plug.

iodine occurred in chemical combination in all the tissues of the body, skin free from any symptoms of iodide eruption was blistered, in two cases, and the serum from these blisters investigated for the presence of iodine. In each instance iodine was readily discovered.

Bacteriological investigation of the pus from eleven cases of iodine and bromine eruption, failed to discover micro-organisms except in one case. These cultures were very carefully taken, only the pus from the deeper portion of the unbroken lesions being used. It seems to us it is very necessary in taking such cultures, that the skin should be thoroughly sterilized and the pus from the top of the lesion evacuated before the culture is made. By this procedure there is no danger of secondary con-



FIG. 3. Dilated capillary showing first stage of inflammatory change, viz.: Increase of connective tissue cells and few lymphocytes.

tamination. In the anthracoid case there were open ulcers which discharged pus freely, but, surprisingly, cultures made from any part of the lesions did not reveal microorganisms. From the quantity of iodine which seemed to be present in the pus in the latter case, it would have been exceedingly difficult for organisms to propagate.

Histo-pathology—We will not take your time today by giving you a detailed description of the histology of the various iodine and bromine lesions investigated by us, as we feel that this subject, in a general way, has been thoroughly discussed by others and that you are, no doubt, familiar with it. As has already been mentioned, lesions in various stages of development, from the smallest prepapulo-pustular stage

to the large anthracoid variety, were included in our material. The tissues were all fixed and hardened in alcohol, cut and mounted in celloidin, and stained by various methods. It is impossible to differentiate histologically, as well as clinically, between iodide and the bromide lesions. They produce an almost identical histological picture, differing only, possibly, very slightly in the finer technical details. When a section from either of these lesions is observed with a low power, the impression of a dermatitis is at once conveyed. The epidermis is thickened, produced by intercellular and intracellular edema. There is some irritation of the



FIG. 4. Dilated capillary showing a later stage of the process, viz.: Increase of connective tissue cells, lymphocytes and engorgement of vessels with polynuclear leucocytes.

epidermis, as here and there are seen evidences of mitosis. The thickening of the epidermis is, however, chiefly produced by the œdema. Coursing through the cutis are large cellular cords, dilated blood vessels. The collagen is swollen and the areas of irritation have a hyalin or glazed appearance. The connective tissue cells are increased throughout the cutis. About the follicles and glands, on account of the increase of cells about their vessels, one sees a dense mass of newly formed cells. Deep in the cutis, and sometimes more superficially, we see dense groups of cells, the beginning of an abscess. These dense groups of cells may occur about a gland or follicle, or may be in no relation to them, as they often

occur free in the center of the corium. In none of our sections does the elastic tissue seem to be affected except in the areas of abscess formation. One can readily see upon observation with the low power, that the point of interest in this study is about the vessels. For this purpose it was found best to begin the study of the vessels in the smallest lesion obtainable, which was a bromide lesion just approaching the papulo-

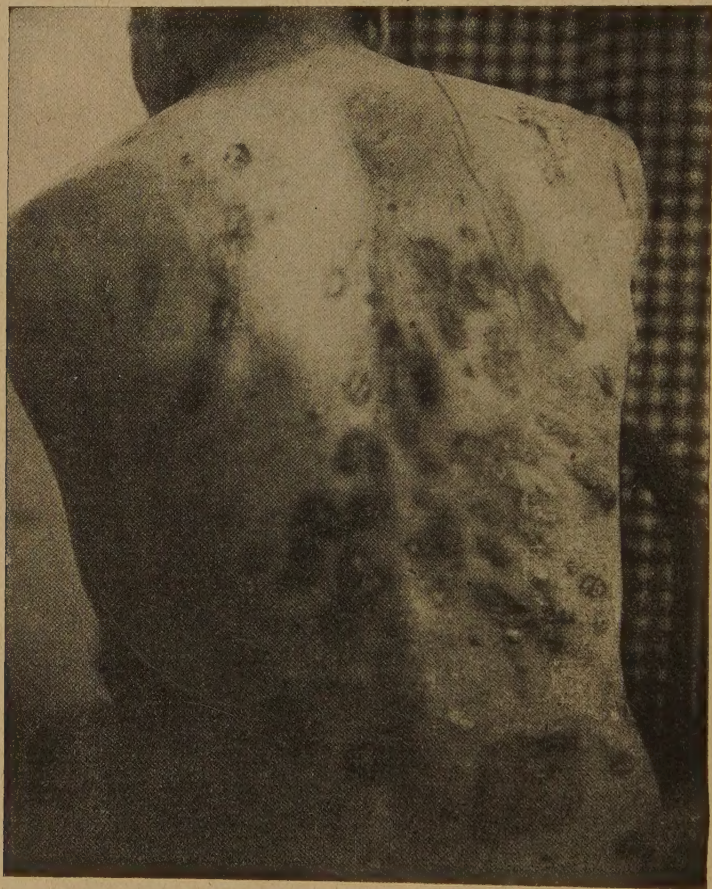


FIG. 5. Anthracoid iodide eruption.

pustular stage. In these sections (Fig. 1) near the center of the derma was found a large mass of cells, the beginning of abscess formation. With the oil immersion, the vessels away from the periphery of the abscess, presented the following appearance: They were dilated, filled with leucocytes, and about them was an increase of connective tissue cells, which seemed to be more pronounced upon one side of the vessel.

This we might designate as the first stage of the pathological change. (Fig. 3.) Later, as we approach nearer the abscess formation there is added to this marked increase of new connective tissue cells, the first appearance of small, round cells, containing a large nucleus, peripherally dotted with fine granules, having somewhat the appearance of lymphoid cells. This is undoubtedly the second stage in the production of the lesion. (Fig. 4.)

As we approach still nearer to the abscess formation, we have a relative increase of the lymphoid-like cells, until we arrive at the vessels, which appear as dense cellular cords under the low power; the infiltration about them being composed of new connective tissue cells and lymphoid-like cells and polymorphonuclear leucocytes. The increase of these cellular elements may occur in any portion of the derma until a dense mass of them is formed, when the collagen takes on a glassy, rigid appearance and polymorphonuclear leucocytes are added to the cellular elements; the collagen then becomes granular; the fixed connective tissue cells become vacuolated, forming the so-called *cellules écumeuses* (the *Schaumzellen* of Unna) to which Pasini refers in his study of bromide eruptions.³ (Pasini thinks these cells become phagocytic but in none of our sections could we verify this fact.) These vacuolated, fixed connective tissue cells, as we reach the abscess, degenerate into granular debris. As the cellular elements about the vessels increase, the change mentioned in the collagen takes place, polymorphonuclear leucocytes are attracted in increasing quantities from the vessels, local nutrition is interfered with and an abscess is formed. The abscess enlarges by the continuation of the same process at its periphery. As the abscess increases in size, the epidermis is flattened out, the structures between it and the abscess are gradually dissolved, the epidermis loses its intrapapular rete pegs, the epidermic cells become flattened until they are finally destroyed by the advancing abscess.

The small abscesses are therefore composed of the fixed tissue cells and the new-formed cells and leucocytes which make up the dense cellular masses seen about the vessels. Histologically, they were also found free of organisms. The epithelia of the coil glands, when the formation of new cells about them seems to interfere with their proper nutrition, show signs of degeneration, and also those of the sebaceous glands and the hair follicles. Histologically the changes in the glands and follicles of the skin were found to be dependent entirely upon the amount of infiltration occurring in the vessels about them; and, as in many instances marked degeneration was progressing in certain portions of the section, while the glands and follicles were comparatively free, it proved to us that there could not be any direct relationship between the excretion of the drug by the glands and the objective symptoms of the eruption. When

³ *Ann. de Derm. et de Syph.*, January, 1906.

a healthy gland is affected it is merely an accident of location, and suffers as any other portion of the skin may suffer from the pathologic changes induced by the drug. The theory that iodide and bromide eruptions are produced by an injury to the glands by the excretion of the drug has been pretty well exploded. The study of our sections proved to us conclusively that this is never the fact, unless the gland be previously diseased. We may reiterate that when a gland or follicle is involved, it is not due to the effect of the drug upon the gland or follicle itself, but to the formation there of inflammatory changes, first induced about the vessels, and affecting in this way the gland indirectly. In fact, the epithelium is nowhere affected except through secondary changes, as one may see in any dermatitis produced by many agents; the epidermis itself presenting only these accidental changes. Iodine and bromine do not seem to have any selective effect upon the tissues, unless it be the production of new connective tissue cells and a local lymphocytosis. A few mast cells could be seen, as in any other inflammatory condition, but no true plasma cells. It seemed to us in a close study of these sections compared with others, that there were more *Schaumzellen* than usually seen in inflammatory areas. They were large, beautifully vacuolated and of great frequency in the upper portion of the cutis. The changes in the vessels seemed to be entirely perivascular. The increase in the connective tissue cells about a capillary is very well demonstrated in the first stages in figure 3, and in its more advanced stages in figure 4.

Producing no specific histologic changes except, possibly, the formation of new connective tissue cells and a local lymphocytosis, and with no relation between the eruption and glandular excretory action, what then is the cause of the production of these eruptions? In the first place, iodine and bromide, we might say, are drugs of standard values in the production of eruptions. We can produce an eruption in any individual, provided a sufficiently large and continuous dosage is carried on. The pathological effects may occur in the form of various types of eruptions, as we well know, but the papule and pustule are the most frequent. When one is taking iodine or bromine, the drug can be detected in all the tissues of the body, and if its administration be sufficiently prolonged, all of the vessels of the body will have an increase of connective tissue cells about them, and possibly the appearance of the small round cells described. In pieces of normal skin from patients taking potassium iodide we found this to be the fact. Therefore we have from these findings the histological material ready at any time for the production of an eruption. This eruption, it has been our experience, makes its first appearance about the sites of previous irritation, the seborrhoic areas, the acne areas, areas of trauma, just as we see the same thing occur in the eruption of smallpox, syphilis and various other disorders due to general toxicosis, the first local appearance being determined at the site of previous points of

pressure or irritation. All are familiar with the suspender eruption of smallpox and syphilis, with the plaster eruption of scarlet fever and measles, and numerous other examples. It seems to use that in iodermia and bromoderma, we have a drug circulating in the body tissues which under certain conditions acts as a toxine, causing at points of local disturbance, all of the symptoms of an inflammation, this inflammation not differing essentially from that produced by other toxic agents.

It may be possible that when a certain state is reached within the tissues a condition of unstable equilibrium between the iodine and the tissue ensues, the chemical action is disturbed, toxic products are formed and we have at this point the production of certain local pathological phenomena. This condition of unstable or abnormal chemical reaction may be produced by previous local conditions in the form of previous local inflammation, and we have then superinduced upon the acne or whatever the previous inflammatory condition may have been, a secondary process in the form of a bromide or an iodide lesion. (Fig. 2.) The previous local inflammation may be microscopic, yet sufficient to disturb the normal chemical reaction there between the tissues and the drug.

This point one of us called attention to in an article upon "Some complications of syphilis of the skin and their treatment," in 1901.⁴ The trend of the remarks referred to, was that we can have—and it is often seen—a severe pathological process superimposed upon a syphilitic eruption by the over-administration of iodine, which is signified in certain cases by the severe and rapid increase of the local symptoms with fungoid or vegetating lesions. This, no doubt, many of us have had in our own experience.

Harrison⁵ uniquely illustrates the fact under discussion. He describes a boy who had been taking bromide, when a bromide eruption was produced upon the leg following a kick.

Laviseur⁶ takes advantage of this fact of iodine seeking inflammatory areas, in the treatment of acne. He gives iodide of potash until the acne lesions are markedly affected through the administration of the drug, when he ceases the administration of the iodide and allows the inflammation then to subside. Excellent results are reported by him by thus substituting one inflammatory condition for another. The affinity of iodine for areas previously undergoing inflammatory changes and its local production in these areas of a lymphocytosis, leucocytosis and reactive inflammatory change, may explain its specific powers in dissolving plasma cell infiltration in syphilis, in producing the iodine laryngitis in smokers and coryza in catarrhal subjects.

⁴ *St. Louis Med. Review*, August 17, 1901.

⁵ *Brit. Journal of Dermat.*, 1901, p. 178.

⁶ *Medical Record*, November 11, 1899, p. 700.

Résumé—The results of our observation upon iodine and bromine eruptions may be concisely stated as follows:

1. The local eruptive phenomena are prone to occur at points of previous inflammation; about comedoes, acne lesions, seborrhoic lesions, scars, traumata, scratches, etc.

2. Traumata, pressure, quick changes of temperature may precipitate an eruption in tissues charged with the drug.

3. Idiosyncrasy or susceptibility may be admitted as it is in other toxic conditions.

4. The glands or follicles of the skin take no active or specific part in the production of the lesions, and when they are involved, it is secondary and passive to inflammatory changes about the vessels and in the connective tissue.

5. The gross histological changes in the skin consist in different degrees of inflammation, from slight changes about the vessels to destructive abscess formation and progressive death of tissue.

6. The minute histological changes or steps to this end may be classed in the following stages: First, increase of connective tissue cells about the vessels. Second, appearance of lymphoid-like cells about the vessels. Third, addition to these cells of trifold leucocytes with granular appearance of collagen and vacuolation of fixed connective tissue cells. Fourth, local increase of all these phenomena and the formation of an abscess.

7. The first and second conditions are found in the normal skin with iodide eruption.

8. The stages three and four, or the addition of leucocytes and degenerative changes, is induced by local disturbance of the normal equilibrium between the iodine combined in the serum and the tissues.

9. This disturbance of equilibrium may be induced by various factors, and when it does occur the resultant product acts as a toxine, which in its turn causes tissue irritation and the production of various local inflammatory symptoms, the type of symptoms and the eruption being dependent upon the character of the individual's reaction to the inflammation thus produced, as in any other toxic condition.

10. This theory may be termed the "Rational theory," as it explains all the symptoms of iododerma and bromoderma in a purely rational, chemical and mechanical manner and does not depend in its elucidation upon the mysterious or purely theoretical action of the vaso-motor system.

DISEASES OF THE KIDNEYS AS INDICATIONS FOR THE INTERRUPTION OF PREGNANCY.*

BY HENRY SCHWARZ, M. D., St. Louis.

Before discussing the indications for the interruption of pregnancy arising from diseases of the kidneys, I deem it advisable to call your attention to the very different significance of induced labor according to the period of pregnancy at which it is to be practiced and according to the purpose for which it is undertaken.

In regard to the period at which pregnancy is interrupted we should speak

(1) Of *Induced Labor*, when the interruption is attempted at or near term;

(2) Of *Induced Premature Labor*, when the interruption is attempted between the 24th and 38th week of gestation, and

(3) Of *Induced Miscarriage*, when the interruption is attempted before the completion of the 24th week.

The induction of labor and of premature labor is practiced either in the interest of the child or in the interest of the mother, while the induction of miscarriage implies the sacrifice of the fetus for the preservation of the mother's life.

If we induce labor in the interest of the fetus we must be reasonably sure of its viability. Such reasonable assurance is present, when pregnancy has reached the end of the 32nd week and when the fetus exhibits sure signs of life. It is true, that the fetus at the end of the 28th week, is by common consent considered viable and that under favorable conditions a fetus of 24 weeks' gestation or less may continue to live, but as a matter of fact the majority of children, born about the 28th week of gestation, die within a short time after birth, no matter how carefully they are tended. Therefore, whenever we wish to induce labor in the interest of the child we should not operate before the completion of the 32nd week.

It is a different matter, when we feel compelled to interrupt pregnancy in the interest of the mother. In that case it is a satisfaction to know, that while we try to save the life of the mother, we do not of necessity destroy that of the fetus, when we induce labor after the completion of the 24th week. By providing incubator, breast milk and skilled attendants for the child we give it a chance to continue to live and this chance increases with every day which pregnancy has been allowed to proceed beyond this critical period.

In the whole domain of obstetrics there is no work more gratifying or reflecting greater credit upon our profession than that of inducing

*A symposium on internal diseases as indications for the interruption of pregnancy, read before the St. Louis Medical Society, October 6, 1906.

labor near term or prematurely in the interest of the child, in cases in which the history of former pregnancies has proven the habitual death of the fetus near the end of gestation or in which former labors point to the improbability of safe delivery at term through the natural passages on account of a moderate disproportion between the fetal head and the maternal pelvis.

We do not expect on this occasion, to dwell on the indications for interrupting pregnancy in the interest of the fetus, but shall confine our discussion to the indications for interrupting pregnancy in the interest of the mother irrespective of the viability of the fetus.

We can display no enthusiasm for this part of our obstetrical work. There can never be satisfaction or glory in the induction of a miscarriage, but it may at times become a stern and sad duty which no conscientious practitioner should shirk.

Not so long ago, when Cesarean section had a mortality of fifty per cent. and more, the higher grades of contracted pelvis seemed to offer a reasonable indication for an early interruption of pregnancy, but at the present time the risk of this operation is not so large that we should hesitate to ask the possessor of such a pelvis, who finds herself pregnant, to assume it. Happily for the peace of mind of the obstetrical world we know now of no conditions and of no diseases, which by their mere presence justify the induction of a miscarriage and happily for the peace of mind of the individual obstetrician, the cases which on account of special conditions call for the induction of a miscarriage are very rare and they are never so urgent but that he could share the responsibility with a fellow practitioner and enjoy the comfort of a consultation.

It is only when two or more reputable physicians are of the opinion, that a pregnant woman is in immediate danger of dying, unless the pregnancy be interrupted, that the induction of her miscarriage becomes justifiable.

To decide in a given case whether or not a woman will die unless she be made to miscarry is a question so hard to answer and one which involves such grave responsibility, that no individual physician should assume its burden.

I hope that I have saved a few lives by interrupting pregnancy, but I positively know that I have failed to save others by trying to avoid the induction of a miscarriage.

Regarding my special task, namely, to define the indications for interrupting pregnancy which may arise from diseases of the kidneys, I beg to state that, in twenty-seven years of special practice, kidney diseases have never called for the interruption of pregnancy except shortly before term, when the viability of the fetus was assured.

When speaking of kidney-diseases in connection with pregnancy, we

must distinguish between disorders that have existed before pregnancy ensued and that are merely complicated by it, and between disorders of the kidneys, which have originated during pregnancy.

Of the first class of cases of which chronic nephritis is the chief exponent, it may be said that as a rule they call for no interruption of pregnancy, especially when the dietetic and other general measures advocated in cases of albuminuria and toxemia of pregnancy are employed. It should be remembered, however, that a great number of these cases (statistics claim over 50 per cent.) lead to the death of the fetus which is not always followed by immediate spontaneous miscarriage, and that the mother must be given the benefit of any doubt about the fetus being alive, when the advisability of inducing labor is under discussion.

It should likewise be remembered that in these cases of chronic nephritis the destruction of tissue is more rapid during pregnancy and that in most cases of retinitis albuminuria in pregnant women, detachment of the retina and atrophy of the optic nerve have rather quickly led to lasting blindness.

While these deplorable complications of an incurable disease may not justify the interruption of pregnancy, they certainly make it our duty to prevent conception in women afflicted with the severer forms of chronic kidney disease and for this purpose it is not sufficient to warn the patient of her increased danger in the event of pregnancy, but we must instruct her to employ means which will enable her to perform her matrimonial duties without the chance of conceiving.

Of the second class of kidney disorders, including the toxic albuminuria of pregnancy with or without casts, it may be said that they usually yield to treatment, or that they can be kept within safe bounds.

When eclampsia or pre-eclamptic symptoms occur, with or without perverted kidney action, the fetus is almost without exception viable and in as much danger of dying as is the mother, and in these cases it is not a question of inducing labor by imitating the natural process, but it is a question of rapidly removing the contents of the womb in an effort to save the lives of both mother and child.

In conclusion I wish to draw your attention to the fact that when we speak of sacrifices in connection with the interruption of pregnancy, it is not always the fetus of whom the sacrifice is expected. When death approaches a pregnant woman after a lingering illness while her womb harbors a viable child, we know that during the agony the fetus is likely to die of asphyxia before the mother has expired and under these circumstances it at times becomes our duty to advocate the induction of labor in an effort to save the life of the child.

TUBERCULOSIS AS AN INDICATION FOR THE INTERRUPTION OF PREGNANCY.

BY LOUIS M. WARFIELD, M. D., St. Louis.

There is probably no subject connected with obstetrics and medicine that admits of more discussion and difference of opinion than the question of tuberculosis in pregnant women as an indication for the artificial interruption of pregnancy. Recognized authorities hold and urge diametrically opposite views. Thus, Maragliano believes that in all cases pregnancy should be interrupted, while Ahlfeld states that no case should be interfered with.

To take issue against such authorities as are quoted, the one a recognized leader in tuberculosis, the other in obstetrics, appears hazardous, but we believe that a presentation of certain facts may help us to form a judgment in any individual case.

The importance of this subject will be seen when we consider the number of pregnant women who have tuberculosis. Bacon calculates that from "1 to 1.5 per cent. of all pregnant women have tuberculosis in such degree that it can be detected if careful examination is made." This proportion is calculated from the Census Bureau statistics. He further states that among the 60,000 women confined each year in Chicago from 600 to 900 are tuberculous. As a low estimate he thinks that yearly from 24,000 to 36,000 pregnant women in the United States have tuberculosis that can be clinically recognized.

There is one phase of tuberculosis concerning which all authors are more or less in unison. All believe that in tuberculosis of the larynx abortion should be performed in the early months.

There can be no question that laryngeal tuberculosis developing in the course of pregnancy assumes a most virulent type, as it usually leads to thickening of the vocal chords, ulceration, perichondritis and asphyxiation.

Kuttner states that the least indication of laryngeal tuberculosis is a great danger to the pregnant woman. Of 100 cases that he collected, pregnancy was interrupted during the third or fourth month in three. The subsequent histories of these women are not given. Only seven of the remaining number survived the pregnancy.

Lohnberg reports a case of a woman, a IV. para, aged 36, who had tuberculosis of the lung and larynx. Pregnancy was interrupted in the third month, but in spite of this all the symptoms rapidly increased and the patient died seven weeks after the operation.

Freund, however, mentions a case in which tuberculosis of the larynx developed in the first month of pregnancy. The diagnosis was confirmed by careful examination and the pregnancy was interrupted at the sixth week. Five and a quarter years later the patient was living and perfectly well.

Unless the diagnosis is made early and the pregnancy interrupted in the first two or three months, it does not seem justifiable to interfere. We can scarcely hope to save the mother even if the operation is performed, for the effect of the operation itself is markedly deleterious if performed after the third month.

The chances of a mother giving birth to a live child are not the best. In Kuttner's collection of 66 children, 60 per cent. died shortly after birth. Freund states that in his experience abortion is very frequent. Fellner in his series did not find so great a mortality among the children. He found that out of 289 children 24 per cent. were dead at birth, or died shortly afterwards.

In pregnancy complicated with tuberculosis of the lungs no rules of thumb can be laid down. Every case must be decided on its individual merits after the most careful consideration with a consultant. While tuberculosis of the lungs, as a rule, is apt to show an increase in severity during pregnancy and, after delivery to develop rapidly to a fatal termination, yet such is not always the case. When we know of, or have seen, women with well advanced tuberculosis give birth to healthy children and live for possibly several years and even bear other children, we must perforce hesitate to lay down any rules for guidance. Naturally, mild forms of tuberculosis are more favorable than severe forms, and previous tuberculosis is more favorable than a tuberculosis that develops just before or during pregnancy. The latter is apt to run a very rapid course (Larcher). However, tuberculosis of the lungs in itself is no contra-indication if, for any other reason, interruption of pregnancy is necessary.

Freund's experience is valuable. Out of 4,000 cases he saw 26 with tuberculosis of the lungs of a mild type, most of whom had for a year or more shown no active signs. All had normal pregnancies, normal labors and recovered normally from the puerperium.

Unfortunately, as he himself states, he was unable to follow up the further histories of these women.

He also saw 21 severe cases among his 4,000 cases—seven of these aborted. In 8 the symptoms were markedly aggravated so that interruption was thought advisable. Five died shortly after the operation. Nine of the 21 died in the course of the following year.

Von Rosthorn saw 25 cases. He believes that in stationary cases the influence of gestation seems to be little or none. This is true even if bacilli are present in the sputum, provided that there has been no fever or haemoptysis for a year. If, however, there are signs, with ever so little fever, that does not respond to hygienic-dietetic treatment the prognosis is bad.

The well known fact that children born of mothers with far advanced phthisis may be healthy and never show any signs of tuberculosis, naturally is a strong argument against any interference with the preg-

nancy. Especially is this the case when the circumstances and surroundings of the mother are such that she cannot be placed after the abortion, in the most favorable conditions.

The physician's first duty then would be to the unborn child. In advanced tuberculosis the child should receive the first consideration, in beginning tuberculosis, the mother.

Other factors to be taken in consideration are the question of congenital tuberculosis and the question of inherited tendency to the disease, what has been called anaphylaxis. This last has been very conclusively shown to be the case in the serum disease; the young of guinea pigs, whose mothers were given the serum disease, were found to be markedly susceptible to small doses of the horse serum. Cases of congenital tuberculosis have been reported and while there are many who ridicule the inherited tendency idea, recent experimental evidence substantiates this view.

Thus a pregnancy in a woman with tuberculosis offers a series of problems that seem more difficult of solution the more one considers them.

It then becomes the duty of the internist and obstetrician to work hand in hand. Particularly would this be advisable where there was a family history of tuberculosis and the woman herself was frail in build. Careful physical examination of the lungs should be as much of a routine method as the measurement of the pelvis. More so in fact. For once having measured the bony points in the pelvis, the chances are that they will not change. Not so with the lungs in any one pregnancy, or in succeeding pregnancies.

After any exhausting illness during pregnancy or after excessive vomiting of the early months most careful prophylaxis should be instituted.

Particular attention should be paid to the convalescence from colds, gripe, pneumonia and pleurisy. Should there be quotidian or tertian fever with chilly sensations, the most careful and painstaking examination of the lungs should be made. Too many times the patient is satisfied with the diagnosis of malaria.

It is only necessary to remark that no tuberculous mother should nurse her child.

Finally, at what have we arrived? Simply these principles:

1st: Tuberculosis of the larynx is a very grave complication of pregnancy and is a justifiable indication for its interruption. To be of value, it must be done in the first two months of the pregnancy.

2nd: In advanced cases of tuberculosis of the lungs in pregnant women abortion is not justifiable. The exhaustion following it differs very little from that of the normal puerperium. The child should in such a case be our first care.

3rd: In early tuberculosis of the lungs, if the process is advancing, the

woman is losing weight and if she can be put under the most favorable surroundings there might be a justifiable indication for interruption.

4th: If on the other hand, a woman with tuberculosis of some months standing with the process apparently stationary the most rational procedure would be to watch her closely. Such women may abort or may go through pregnancy, labor and the puerperium in a normal manner and show no harmful effects from them. There seems to be only one rule; if the abortion is performed it must, in all cases, be done as early in the pregnancy as possible.

THE INDICATIONS FOR THE INTERRUPTION OF PREGNANCY IN REFERENCE TO HEART DISEASES.

By W. H. Vogt, M. D. St. Louis.

The premature emptying of the uterus can be done at almost any time during pregnancy but the results as far as the fetus is concerned depend entirely upon the period when induction of labor is brought about. We therefore have to differentiate between the artificial abortion and the artificial premature birth. In the first instance, we entirely ignore the possibility of the further development of the fetus extra-uterine, whereas, in the latter case we hope for its further growth.

By artificial abortion is meant the termination of a pregnancy before the seventh month. The object of this operation is to ward off an impending, or control an existing danger to the life of the mother, but it is necessary to know that by this means alone can the mother be saved.

By artificial premature birth is meant the interruption of pregnancy at a time when the fetus is viable, or about the 32nd to the 33rd week of pregnancy. The object of this operation is to protect the mother and child from dangerous conditions which might arise during the further course of pregnancy or during labor at full term. It occasionally happens that we have in view the protection of the woman's life only, but usually in induction of premature birth we hope to save the life of both. The early writers mentioned many reasons for, and gave numerous methods of inducing labor but not until the latter part of the eighteenth century was it placed on a scientific basis when Sir William Cooper advocated its use in cases of narrow pelvis instead of the Cæsarean section, because at that time the mortality following Cæsarean section was very high. Today it is generally recognized that we are justified in inducing labor under certain conditions, but the indications for the same are still in many cases not definitely settled. The indications may be divided into two classes, viz.:

1. The operation is absolutely indicated in all cases of pregnancy in which an absolute danger to life exists for the pregnant woman, and

which we can hope to relieve only by the interruption of the pregnancy.

2. The operation may be justified as a relative procedure, not as above stated where danger already exists, but when it is feared that by the further continuance of the pregnancy, or during labor, or the childbed, more dangerous conditions may arise. Relative or prophylactic indications; we might term them, should never be considered in diseased conditions of the mother. The only time when they might be justified would be in an absolutely too narrow pelvis. In diseased conditions we can often, through proper dietetic and medicinal treatment, bring about a complete cure or at least an alleviation of the severe symptoms. We are never positively able to decide whether on account of a co-existing pregnancy the condition of the patient is necessarily exaggerated, and on the other hand we are never able to positively state that the termination of the pregnancy will as a rule cure the disease or even bring about relief. Too often does the medical profession allow itself to be influenced by the subjective symptoms of the patient who is often, intentionally or unintentionally, deceiving the physician.

I, therefore, believe that the consideration of relative indications for diseased conditions of the mother should be entirely left out and the therapeutic interruption of pregnancy should be performed only when real danger to the life of the mother exists.

Several pathological conditions of the mother may justify this procedure but it behooves me to speak only of one, namely: Heart diseases. When speaking of heart diseases in pregnancy we often hear of the great dangers, not only during pregnancy but what might occur during labor, or the puerperium. We are all aware of the fact that under ordinary conditions cardiac diseases in any of the forms are very serious troubles and when they occur in pregnancy, or when a woman with a chronic heart lesion becomes pregnant, the seriousness of the condition is even greater. Although we all recognize this fact, yet I believe that too often the condition is exaggerated.

The prognosis in diseases of the heart is as a rule much better for both mother and child than is usually given. Fritsch, Macdonald, and many French authors have studied this subject and most all came to the conclusion that diseases of the heart may produce serious complications, but as to the frequency of the complications, opinions vary. Vinay claims that 13 per cent of all pregnant women with cardiac disease suffer disturbances during pregnancy, labor, or the puerperium, while Porak claims as many as 65 per cent. suffer. There is no question that unless we examine all of our pregnant cases carefully, many will escape us with heart lesions undetected and go through pregnancy and labor without any disturbances; this also is the reason why the varied percentages are given above, for the one author looks for heart disease in every case, while the other uses in his statistics only cases where he has been in-

formed of the existing lesion and then examines. Fellner believes that only one-seventh of the heart diseases during pregnancy are ever detected.

Among the various heart lesions it is claimed that pure mitral stenosis is the most deadly. Lusk says that these patients never live beyond the sixth month and even advises the induction of abortion as soon as the diagnosis is made. This, however, has not been Jardine's experience. He reports several cases of mitral stenosis in which disturbances of compensation were present but under careful treatment these disturbances disappeared and the patients went to full term. Labor set in and delivery was completed after the first stage with forceps. The patients made uneventful recoveries. Aortic incompetence comes next to mitral stenosis in seriousness, and mitral insufficiency unless very marked is claimed not to be so serious.

In considering the heart diseases both for mother and fetus, Jardine's cases furnish us very good data. He reports 13 cases with almost all the various valvular lesions and in which all sorts of complications existed, such as bronchitis, edema, albuminuria, etc. All with the exception of two cases went to full term, one aborted spontaneously at the third month and the other abortion was induced on account of the patient having a serious heart lesion with a bad previous history. Of all these cases only one patient died and this one came under his care after labor had begun.

It is claimed that spontaneous abortion will take place very often where incompensation is present, probably due to death of the fetus from insufficient oxidation. This from the above reported cases does not even seem to be of such frequent occurrence. I believe, however, that if the incompensation is severe and the patient is not under strict medical care, abortion will occur quite frequently. In a recent article by Whitridge Williams in which he reports the indications for induction of premature labor and abortion we find only two cases mentioned of broken compensation as an indication for producing this operation out of 5,000 labors. Certainly a very small number.

From the experiences of a large number of authorities the fact seems to be that if a woman with a heart lesion becomes pregnant, no matter what the lesion be, and the same is uncompensated, her chances for going through pregnancy, labor or the puerperium without trouble are small, whereas, on the other hand, if the lesion is compensated and her general health is good she probably will have no trouble, provided no incompensation, nephritis or endocarditis should appear. Since we know that complications during pregnancy may arise as a result of heart lesion it becomes our plain duty to examine every one of our pregnant patients carefully for such conditions and should we find a lesion of some sort, attempt to keep the patient under our control and give her instructions as to what to do and what not to do. It is not necessary to inform the

patient of her condition, in fact I think it wrong to do so, for the average layman when he hears of heart disease figures that he is surely doomed to an early death. This scare we must try to keep from our patient for fear of her becoming melancholic over her condition which is not infrequent in this class of cases and has a bad effect upon them. By so observing our cases we will almost always see heart cases go to full term, and pass through labor and the puerperium without any difficulty. If disturbances of compensation should arise, then by rest and proper treatment we will probably succeed in having the fetus carried to full term without endangering the life of the mother. Patients should be warned about their work, in regard to long walks, climbing of stairs, or any great amount of exercise, but a small amount of exercise without fatigue should be encouraged. Alcoholic drinks should not be permitted. If symptoms should arise which indicate a disturbance of compensation such as dyspnoea, palpitation, cough, etc., then it is well to put the patient to bed, apply an ice bag over the region of the heart and place the patient on a mild diet, probably the best is a plain liquid diet. In severe cases cardiac tonics such as digitalis or strophanthus may be given. If by these means we are unable to control the condition the question of interrupting the pregnancy may arise.

Now it is a known fact that the patients seldom have any trouble in the early part of pregnancy and that disturbances of compensation occur usually only toward the end of pregnancy; it will therefore rarely become necessary to perform an abortion for this cause. If, however, the indications for the interruption of the pregnancy should arise we must bear in mind that the dangerous symptoms are usually of least gravity during pregnancy, that they become greater during labor and are most severe during the puerperium. It is therefore necessary to select our cases carefully for we may, by inducing labor, only hasten the patient's end. When a patient is suffering with severe disturbances of compensation we must not even then be too hasty in deciding to induce labor, for the extra strain put upon the heart during the labor and the sudden drop of the blood pressure which takes place immediately after labor may kill the patient and we have then simply helped to bring about what we tried to avoid. On the other hand, we must not hesitate too long for as a general thing the symptoms become more dangerous the further the pregnancy is advanced, the diminished blood pressure and consequently the collapse are the more to be feared. In other words, if we expect to have results in the performance of this operation we must not wait until the patient is practically beyond hope. If the symptoms are severe in the early part of pregnancy, or if other conditions exist besides the heart lesion which alone, or combined with the heart lesion, make it dangerous for the woman to carry her fetus, then it will not be so hard for us to decide to perform the operation.

After all is said, it will be seen that the indications for the interruption of pregnancy resolve themselves into the following:

When during the course of pregnancy disturbances of compensation arise which are not amenable to treatment, in fact which get worse under careful treatment and danger to the patient exists, then, and only then, are we justified in inducing labor. The mere presence of a heart lesion never furnishes the indication for this procedure. As said before, it will rarely become necessary to perform an abortion owing to the fact that disturbances due to heart lesions usually first appear during the latter part of pregnancy, but it occasionally happens that we see a woman who has had severe complications due to a heart lesion in previous pregnancies and who has against warning again conceived, then with due study of the case and consultation with another colleague may we undertake to do an abortion for the purpose of preventing a repetition of her previous experience. Even in such cases we must not jump to conclusions, for because a woman has had trouble in one pregnancy it does not necessarily follow that the same trouble will again take place. Probably no symptoms will arise during this renewed pregnancy and it would therefore probably not be wrong to watch her and allow her to go to full term if possible, providing her general health is good. This course would probably be all the more indicated in which a patient has not had a living child and was anxious for the same. Should symptoms arise while under observation which ordinarily would not influence us to induce labor, knowing the previous history we could do so now before serious symptoms appear. This would probably be attended with a fair amount of success. I say only a fair amount of success for we must be very guarded what we promise in this class of cases. Our success will depend greatly upon the manner in which the labor is handled.

In conclusion it may not be amiss to state that frequently women with heart lesions are advised not to marry. This, I believe, is going a little too far, and I agree with Wright who says: "If a woman has for years been able to attend her domestic and social duties without any serious ill health or serious trouble due to her cardiac condition, she should not be prevented from marrying, even though it is freely admitted that child bearing may aggravate the dangers connected with heart disease." The dangers of pregnancy and labor are becoming less feared owing to a better understanding of the cases.

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HYPEREMESIS AS AN INDICATION FOR THE INTERRUPTION OF PREGNANCY.

BY BERNARD W. MOORE, M. D., St. Louis.

Hyperemesis gravidarum is a condition which has been recognized since the earliest days of medicine. Reliable statistics as to its frequency are lacking. The figures obtainable in the literature show wide discrepancies, so that the conclusion is inevitable, that the condition is more frequent in some countries than in others. As shown by Horwitz, it is more frequent in France, England and America than in Germany or Russia. The incidence varies also with the social condition, being more frequent among the well-to-do than among the poor. To this fact are due the low figures from some of the large clinics in Europe and America. Pick gives the incidence of severe vomiting as once in 1,000 cases. At the Johns Hopkins Hospital, Williams saw only two cases in 4,500, but finds the disease very much more frequent in his private work. This variability of occurrence is attended by an equal variability in mortality, which has resulted in many discrepant views as to the management of the condition, especially as regards the interruption of pregnancy. Some men of large experience are opposed to therapeutic abortion in hyperemesis, upon the ground that it is not a fatal malady when properly managed. Thus Frank, from a large experience in Schanta's clinic, records that he has never seen a case in which abortion was indicated. On the other hand, in France, Gueniot collected 118 cases, in which 72 terminated fatally, and Merle gives a mortality of about 50 per cent. in cases treated medically. In this country recently fatal cases have been recorded by Williams, Stone, Ewing, Strauss and others, so that it may be regarded as unquestionable that the disease is fatal in a certain number of cases. In all the statistics available, the mortality from hyperemesis is less in those cases in which abortion has occurred spontaneously or has been induced.

For the purposes of the present discussion, it is assumed that certain cases of hyperemesis are inevitably fatal, in spite of the best possible management, if pregnancy is not spontaneously or artificially interrupted, and that therapeutic abortion is absolutely indicated whenever the continuation of pregnancy seems certain to end in the death of the pregnant

woman. As the indications for the interruption of pregnancy are so closely related to the etiology of the condition, the main theories as to the cause of hyperemesis will be briefly considered, following the classification adopted by Williams, who recognizes three classes: reflex vomiting, neurotic vomiting, and toxemic vomiting.

Reflex vomiting is said to be due to various abnormalities of the uterus or its adnexa, existing prior to, or arising in pregnancy, or to abnormalities of the ovum. The reflex origin of hyperemesis was the earliest to obtain general credence, and for a long time dominated the literature upon this subject. Almost every abnormality to which the pregnant uterus is subject has been invoked to explain reflex vomiting, the most important being displacements. Among other causes may be mentioned ovarian tumors, Hydramnios, hydatidiform mole and twin pregnancy. The theory, however, does not seem to rest upon any sound, demonstrable basis. The various abnormalities which are supposed to cause reflex vomiting frequently exist in patients who do not vomit at all. In autopsies upon patients dying of hyperemesis, in which abnormalities of the generative tract were found, the condition of the other viscera seems to have been overlooked or disregarded, so that it cannot be positively asserted that other causes of vomiting did not exist. The chief ground upon which this theory rests is that relief from vomiting follows relief of the abnormal condition: in other words, the theory is measured by a therapeutic test. When it is recalled that many cases of vomiting cease after the use of the most irrational remedies, it will be seen how uncertain the theory is.

It is not denied that striking results sometimes follow the correction of local abnormalities of the generative tract. In all cases of hyperemesis, the local condition should be carefully looked into, and abnormalities corrected. It does not appear, however, that vomiting of such a nature as to endanger life is ever due to local disease. Therefore, the induction of abortion is never to be considered in such cases.

In 1890, in an important paper read before the Berlin Obstetrical Society, Kaltenbach expressed the view that those cases of vomiting in pregnancy in which diseases of the digestive tract, kidney or sexual organs can be shown to exist, should not be included under the head of hyperemesis gravidarum, but only those cases due to pregnancy itself. Considering hyperemesis in this limited sense, he reaches the conclusion that it is to be considered a true functional neurosis, in which reflex irritability is increased and reflex control decreased, a condition allied to hysteria. In support of this view, he cites the inconstant and unimportant findings at autopsy, and the remarkable results frequently obtained by unusual and bizarre remedies. He concludes that hyperemesis should be treated as a neurosis, by isolation of the patient under suitable conditions, and that the induction of abortion is never indicated. Other writers before Kalten-

bach had directed attention to the neurotic origin of hyperemesis, but to him is undoubtedly due the credit of first directing general attention to the condition. Following Kaltenbach's address, the neurotic origin of hyperemesis received wide acceptance.

Unquestionably a great many cases of hyperemesis are of neurotic origin, but it would be an extreme view to hold that all cases are such, even within the limitations adopted by Kaltenbach. With proper management, this type of vomiting should never result fatally. By isolation from her family, in the charge of a competent nurse, suggestion, proper feeding by mouth, or by rectum if necessary, such a patient usually promptly recovers. One patient with this type of vomiting, who had to be fed for 18 days by the rectum, finally promptly recovered upon the sudden death of her mother, who had been her constant companion.

It should be borne in mind that, in cases where pregnancy is unwelcomed, this type of vomiting frequently exists. Fritsch reports a case in which a patient lost 37 pounds in four weeks from constant vomiting. After the induction of abortion, which seemed necessary to save her life, she confessed that she had vomited at will, in order that the pregnancy might be ended.

The toxemic nature of certain cases of hyperemesis has been recognized for a number of years, but it is only since 1892, when Lindemann reported a case of hyperemesis complicated by multiple neuritis, that a definite pathological basis for this belief has existed. At autopsy Lindemann found evidences of neuritis, fatty degeneration and cloudy swelling of the liver and kidneys, and similar lesions in the liver and kidneys of the fetus. In 1891, Champetier de Ribes and Bouffe de Saint Blaise reported definite lesions of the liver in a woman dying of convulsions after vomiting throughout pregnancy. Later other cases were reported, so that Williams has recently been able to collect twelve fatal cases of hyperemesis, including one of his own, in which lesions of the liver were found resembling those of acute yellow atrophy. Still more recently two cases have been reported by Strauss. The uniformity of these findings is in marked contrast to the negative or indefinite findings in other cases, and justifies the belief that there is a close relationship between hyperemesis and acute yellow atrophy. Microscopically the liver shows degenerative changes, beginning about the central vein of the lobule, and advancing toward the periphery. Degenerative changes are also found in the kidneys. The origin of the toxic materials which produce these lesions has been variously sought. Dirmoser believes that they arise from the gastro-intestinal tract, and Veit has applied his syncytio-toxin theory. Stone considers the liver as the source of the poisons, and he, Ewing, Edgar and others believe that hyperemesis and eclampsia are similar conditions. Williams has pointed out, however, that the hepatic lesions of the two conditions are entirely different.

The symptoms of toxemic vomiting present nothing characteristic at first. The differentiation from neurotic vomiting by ordinary clinical methods is impossible. The loss of weight and prostration is no greater in the one than in the other. The character of the vomited matter is the same. In toxemic vomiting, the pulse may be of good character, and the temperature normal. In a case which I saw, the pulse was 86 when it was decided to end pregnancy, although the skin and conjunctivæ were icteric, and the liver dullness apparently much decreased. The ordinary chemical examination of the urine may be entirely negative. In the terminal stage, however, the symptoms are quite characteristic. Blood appears in the vomitus, which takes on a coffee-grounds appearance. The skin may become icteric. Epigastric pain is sometimes intense. Death comes with coma or convulsions, or consciousness may be retained to the end. The urine shows the presence of albumen, blood and casts.

In a condition which has so great a resemblance to acute yellow atrophy clinically and pathologically, it would be reasonable to expect a similarity in the condition of the urine. In acute yellow atrophy the urea is constantly decreased and the ammonia constantly increased. To Williams of Baltimore belongs the great credit for first calling attention to similar changes in the urine of toxemic hyperemesis, and thereby furnishing a method of precision in the early diagnosis of this disease. In a series of carefully studied cases he has shown that in toxemic vomiting the urine shows constantly a practically normal total nitrogen output, a marked diminution in the urea, and an increase in the ammonia from the normal 3 to 5 per cent. to 20, 30 or 40 per cent., or over. These changes occur at a time when clinical diagnosis would be impossible, and furnish an early indication for the induction of abortion, which greatly increases the chances of the recovery of the patient. In neurotic vomiting, on the other hand, the nitrogen partitions of the urine show no changes from the normal. Such examinations of the urine have to be made by a trained chemist, and to this disadvantage may be added the length of time required. Williams' work has not yet been confirmed, and has met with various theoretical objections from Dirmoser, Wolf, McDonald and Strauss. Stone has recently published four cases of toxic vomiting, in which careful analyses of the urine were made, and in which a high ammonia co-efficient was not constantly found, but he concludes from the large quantity of amido-acids present, that a study of the nitrogen partitions of the urine furnishes a valuable means of prognosis in hyperemesis.

In conclusion it may be said that with our present knowledge we are justified in recognizing but one form of hyperemesis in which therapeutic abortion is indicated,—toxemic hyperemesis,—and that a careful chemical examination of the urine furnishes an early and certain means of diagnosing the condition.

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THE ETHICS AND LAWS REGARDING THE INTERRUPTION OF PREGNANCY.

BY FRED. J. TAUSSIG, M. D., St. Louis.

Many, particularly among the laity, claim that by giving our sanction to the interruption of pregnancy under certain special circumstances, we are offering a loophole of escape to all those who desire to interrupt pregnancy for their own personal gain. On the one hand, they say, we condemn it as a criminal procedure, and on the other recommend it as a means of saving the mother's life. Are we consistent? As much so, surely, as when we condemn the killing of a man in one case as murder, and in another case praise it as the highest type of patriotism. If it is justifiable for a man to kill another for the defense of his country and his home, surely it cannot be wrong for the doctor to take a life for the defense of his patient.

But just as the law has sharply defined the line between murder and self-defense or defense of one's home, so, too, we must in our laws and code of ethics set down certain rules for the protection of society so that this privilege accorded the physician is not abused.

I recall at the Portland meeting of the American Medical Association, when the subject of the interruption of pregnancy in tuberculosis came up for discussion, that several members declaimed against the abuse this doctrine might give rise to. Occasionally I have heard obstetricians say that it was all right for *us* to know about these special indications for interrupting pregnancy, but that we should not be spreading the information among general practitioners for fear that it would lead to the interruption of pregnancy on the slightest provocation.

I don't believe the science of medicine is anything to keep quiet about. The more the practitioners know the facts, the greater the ultimate benefit for mankind. Practitioners have heard of the advisability of interrupting pregnancy in tuberculosis, heart disease, etc., and it is our duty to instruct them not merely when to resort to this procedure, but also, and above all, when *not* to resort to it. It should be emphasized that the life of the child must not be taken merely for reasons of inconvenience or

even actual suffering on the part of the patient but only when the mother's life is actually endangered.

For the protection of the good name of the medical profession, I should advise that the following rules be conformed with:

(1) In the first place, we should define as accurately as possible the special conditions under which the interruption of pregnancy is permissible and require that in every instance these special conditions really exist.

(2) Pregnancy should be interrupted only after the physician in charge has consulted with one or more physicians and obtained their approval.

(3) We should demand that the consultant be not merely any other physician, but some person of note in the community. The danger lies of course in the fact that the unscrupulous doctor will call in some equally unscrupulous medical friend and, after consultation, proceed to do that legally which he would otherwise hesitate to perform. Of course, the municipality is the loser by this taking of human life, and it seems to me fair and expedient that it protect its rights by the appointment of a board of consultants without whose consent it should be considered criminal to induce an abortion. The success of the advisory board of three physicians on questions of insanity, recently appointed in this city, leads me to believe that a board of three persons similarly appointed from a list of those specially qualified to serve in this capacity would be a means of protecting the community in a matter vital to its interests.

I offer this merely as a suggestion for the consideration of the committee appointed to revise the laws relating to criminal abortion. The present wording of the state statutes is certainly extremely vague and unsatisfactory and gives the state absolutely no protection.

EDITORIAL.

THE NEW HARVARD MEDICAL SCHOOL.

A step in the evolution of medical education is illustrated by the group of buildings recently dedicated to the use of the Harvard Medical School. Their significance is too all-important, however, to be limited to its direct bearing on the fortunate medical school which possesses them. These buildings are not merely an expression of architectural beauty and progress; they stand for more: they stand as a symbol of a recognition on the part of our civilization of the high position among arts and sciences occupied by medicine.

In earlier times, painting, sculpture and music, even some of the natural sciences, received encouragement and patronage, but medicine, which, according to the best thought of today, is the most truly altruistic of arts, and the most far-reaching of sciences, was made an outcast and became a skulking pariah. Medical teaching in its beginning was not allowed to be ennobled by decent surroundings. It was done in the dark, darkly, and resulted in secrecy. It was checked by church and state, and cramped by the obstinacy of ignorance and traditional conservatism. It took many centuries of sacrifice to bring the medical school to the point of being even a cleanly place. The outside world is not entirely to blame for all this, for Medicine in itself, in a way, is culpable, having followed many false prophets; there have been not a few of Paracelsus' stamp, both in old and in recent times, who have made burnt offerings for their own gain of the art of medicine.

The science of medicine, on the other hand, is a lusty child of little more than a century's life, and with the growth of this infant, her older sister, the Art, has found it necessary to reform and rehabilitate herself, and has done so with some grace. That these two now stand hand in hand, and enter a new century, clean and beautifully clad, is the profoundest thought connected with this dedication.

In these buildings we have an illustration of the possibilities of the possession of great wealth in a republic where paternalism is lacking. Here was given to several donors the opportunity of building a new and suitable home for medical instruction and research. To have this opportunity and privilege, to take advantage of it, and raise such a monument, is making the return for the benefits reaped by commerce from medical progress in the nineteenth century, and, in fact, in all the centuries; for true medical knowledge has always been of untold advantage to the public welfare and consequently to individual interests. The thought that a man of wealth, or several wealthy individuals, may be able to

do so much by the expenditure of money, that they may have the chance to voice the impulse felt by all thinking people, is granting to them the reward they deserve.

These beautiful buildings, of deep-cut gray marble, hold but a promise; they signify a positive step toward the betterment of a noble art and science, and they presage a rich return to the very interest that made possible their building. Those who have burned the lamp of sacrifice to build these buildings shall feel, and their children shall feel, that part of the debt to medicine has been paid, and that in addition something has been loaned to the future that shall earn a widespread benefit for humanity.

The architecture of these buildings is significant, as it not only signifies the new plane on which medical education is here placed, but it also typifies the art and science of medicine. The buildings are most perfectly adapted to their purpose, from a utilitarian standpoint. The laboratories are light, and the lecture-rooms are so arranged that each listener shall both hear and see. But, with all this, the buildings are beautiful, and are grouped in such a style that even the casual passerby receives a distinct impression, and carries away a belief in the influence and beauty of the age of Pericles and Phidias. The influence of these buildings on the mind of the student, surrounded by their silent though eloquent atmosphere, can be naught but a constant mental and spiritual uplift.

The words of President Eliot, spoken at the dedication, are so inspiring, and present the objects and ends of modern medicine in such decisive form, that we may repeat them here:

"I devote these buildings and their successors in coming time to the teaching of the medical and surgical arts which combat disease and death, alleviate injuries, and defend and assure private and public health, and to the pursuit of the biological and medical sciences on which depends all progress in the medical and surgical arts and in preventive medicine. I solemnly dedicate them to the service of individual man and of human society, and invoke upon them the favor of men and the blessing of God."

THE DUST PROBLEM.

Many, indeed, are the problems which confront us today, but though an interest in them is more commendable than an avoidance, their appeal to a limited circle and the difficulty of solution with resulting benefits of doubtful value to humanity, make them of less importance than a subject informed with a world-wide interest, whose application and possible solution would mean amelioration of suffering among all classes.

That dust is not to be lightly thought of and has a deeper significance than the tribulations it brings to the over-zealous housekeeper, is a fact

fully apprehended in the scientific world. Dr. George Homan, in an excellent paper read before the British Medical Association held at Toronto, August the 21st, calls our attention to many defects in our unscientific methods of house and office cleaning. As the writer forcibly states, "there is agreement among authorities that the sputum expectorated by consumptives, and, becoming dried and powdered, constitutes the principal means by which the infection is extended, the precise manner in which the recipient acquires it—whether by inhalation, ingestion, or inoculation—being of secondary importance, but that pathogenic lodgment must necessarily take place in one or more of these several ways. The seriousness of the situation is increased by the fact ascertained by competent observers that the vitality of the infecting germ retained within doors may endure unimpaired for several months."

This being the case, the greatest care should be exercised in preventing the dissemination of particles which might be the carriers of the germs of infection. It is no overdrawn picture the writer gives as to the crude ideas which obtain today in connection with the so-called best methods to rid our buildings of dust. The Romans, with their veneration of their household gods, their Lares and Penates, gave evidence of the artistic sense, but it has remained for the enlightened people of the twentieth century to add a few utilitarian ideas to *their* gods in the shape of the broom and duster. To raise a cloud of dust with a broom, thereby driving many particles into other rooms which may be tight-closed, but are certainly carpeted and have such modern dust collectors as heavy portieres and curtains, is a footless proceeding with possibilities of a criminal nature. But such is the ignorance plus arrogance of the many who rule us that the small voice raised in protest is construed into dissatisfaction with that which must be right because the majority wish it.

Dr. Homan's arraignment of the manner of cleaning clubs and office buildings, and the deleterious effects therefrom on employees, is a timely outcry against a dark page in what we easy-going critics are pleased to call the Book of Progress. One quotation will suffice to show the enormity of the offense: "The limitations of time and circumstances here," says the writer, "do not permit any extended notice of the morbid development observed among employes in atmospheres of daily domestic dust, but of those places in which medical scrutiny has been exercised longest and most closely, the confident statement can be made that while, of course, many contributory influences are involved, yet the pleurisies, penumonias, bronchial catarrhs, and cases of tonsillitis and influenza occurring among patrons and helps find a sufficient explanation in the local conditions, and undoubtedly these ailments prepare the way for the tuberculous infection that easily and commonly follows."

To modernize the methods of cleaning so that the dissemination of dust could not be considered a contributory influence in the causation

of the above mentioned diseases, Dr. Homan suggests the vacuum or pneumatic method, but while this is practicable in clubs, hotels and theaters, it is not in private houses. Certainly, suggestions are not out of place when the health of the community is at stake, nevertheless we deeply regret that all that Dr. Homan has said, and others might say, will have but small effect until the carpets, the portieres, the many ornaments, now integral parts of our homes, are abandoned.

The habits of a people are hard to change, hence suggestions are rather worthless where applicability fails of desired results. Only when a people realizes how cheap, tawdry and unnecessary are the useless appendages of the modern home; when education spells culture and trains the eye for the useful and the ennobling, will a better state be inaugurated. Let us hope, when this happens, the implements used at present to disseminate dust will occupy a quite exalted place in a museum for antiquities.

THE SILENT FACTORS IN CRIME.

The question of determining the responsibility of a crime is not solved when the accused is freed or punished. There lies behind many a criminal act a chain of circumstances, which seem to work with a relentless certainty to the final tragedy. Too often there can be found in this chain of causes, factors which, if taken in time, might prevent the crime. In the history of an act of violence this preventable factor is seldom mentioned, and the experience that might be gained from its study is lost. The slate is wiped clean, the machinery of the law is again set in order, to be ready for the next criminal and the lesson goes unheeded.

Too often are ignorance, rapacity, carelessness and gross fraud allowed to play their part to the detriment of society and to the undoing of one of its innocent members. The unrecognized factor, whether a circumstance or an individual, is permitted to go unnoticed and the silent accomplice to the act is free to form again, if fate so wills, a part of the relentless chain.

A recent crime in this city might well form the text of a sermon which would have for its object the demonstration of the fact that the law in its dealings with criminals puts limits on its activity from which society suffers.

The law, were it in an accusing mood, might well raise its finger in scorn at the medical profession for its neglect of duty in this very connection. How rare is that kind of courage to be found which for the protection of society informs the proper authorities of the danger of permitting a medical error to go to its logical conclusion.

Law and medicine are the two most powerful elements in the prevention of crime and yet they seldom act together to this end with any conscious spirit. Somewhere there is a lack of co-operation and somehow

this empty place escapes attention. The fault that led to the crime to be related below lies either in the medical or the legal end of our institutions. Will someone discover its place, suggest a remedy, and have the courage to see it through?

The crime: A preventable murder—a fratricide. The criminal: A youth with paranoical delusions upon a basis of dementia præcox. The preventable factor: A physician, whether acting in good faith or not, hidden and protected from the law. The legal result: A recommitment of the murderer to an asylum. The price that society pays: The sacrifice of a worthy life, the stain of murder upon an innocent family. The rest can be left to the imagination.

The story is commonplace enough. A physician claims to be able to cure certain forms of insanity by operation on the head. A small trephine opening in an indifferent part of the skull with the removal of the button of bone is sufficient, according to him, to so change the mental activity of an individual that delusions, no matter how fixed, degeneracy, no matter how deep, will disappear. An x-ray examination decides what portion of the skull is to be operated upon.

A young man, an inmate of an asylum, committed there according to the law and supposed to be kept there as a protection to society, is allowed to leave on parole. All this is strictly within the limits of the law. This young man is suffering from delusions of persecution. He has katatonic symptoms and is probably a victim of dementia præcox with homicidal tendencies. The dementia is already pronounced, prohibiting of course, any hope of cure. An x-ray examination is made, a lesion of course is found, and the operation then performed. A button of bone about the size of a quarter is removed from an absolutely silent area of the skull and the patient, after a long period of convalescence, is sent home. A few months later he shoots his brother under the delusion that this brother is conspiring to deprive him of health and strength. The brother dies a few days afterwards. This boy is charged with murder in the first degree and is declared irresponsible and is about to be sent to the asylum.

The further details of the story are not necessary; the questions of fee and the personality of the physician are irrelevant. The good intent of the physician even has no place in the question now at issue.

The vital thing to inquire about is what protection has society in a case of this kind? What explanation has a civilized state to offer for the fact that one of her citizens should be shot down in broad daylight by an individual known to be insane and placed in a legal way at one time in an asylum? To admit an individual known to be dangerous to an asylum by due process of law, and to free him again without it, his disease remaining the same, is a curious bit of legal inconsistency.

In this case the preventable factors, the silent forces, acting as accomplices, are many. They all point to defects in the law of so vital and serious a nature that immediate changes are indicated. They point to the weakness of a system which invests in the hands of one man the responsibility of dismissal of insane people known to have been dangerous. They point to the need of a consulting body on psychiatry to aid the courts in the determination of the probable future in respect to the law, of patients committed by due legal process to the insane asylum. Above all they point, and in no uncertain way, to the necessity of discovering the preventable factors in every crime and the means of protecting society from the activity of these factors. The story of this murder presents an argument that is unanswerable in support of these contentions.

COMMENT.

A PLEA FOR BETTER STUDENTS.

The indifference of parents to the proper education of their children, the low moral status resulting therefrom, the crippled citizenship following parental perverseness when Manhood is in the Making, are facts graphically set forth by R. F. Cholmely in an admirable article copied by the *University Digest* (Chicago, Sept.) from the *Independent Review* (London, England).

The demoralization of parents is apt to be underestimated in the hurly-burly of modern life, just as the independence necessary to youth is generally exaggerated by an uncritical public imbued with ideals out of keeping with reform and progress. By demoralization of parents, we glean from the article, is meant the indifference of parents to those educational systems in which "children educate each other, while a number of distinguished scholars, who are paid to educate them, stand by and look on and call it a system."

In England, these remarks apply to public school education, but though their pertinency is not applicable to the same schools in this country, it is applicable to our numerous boarding schools, colleges and smaller universities.

Parents, directly the boy leaves home, give but little thought to his moral welfare, consoling themselves, if they ever really think of it, by an implicit confidence in the "system," the details of which appeal differently to the father and mother; the former staking his faith on the erroneous idea that athleticism—*Mens sana in corpore sano*—will generate a moral uplift; the latter, on the *esprit de corps* which to her simple mind spells moral education.

Athleticism, though it may mean much for the muscles, has but a slight bearing on the mind, especially that part of one's mentality that is needed to curb the passions and obliterate moral obliquity when in later life business and social duties become imperative. Boys who influence each other after study hours without the supervision of masters, have many opportunities to inculcate wrong ideas into their fellows. A precocious boy of 12 or 14 may do untold mischief, not by overt methods that must be seen even by the most obtuse and apathetic instructors, but by covert means so masked that among the many avocations of the modern teacher small notice is taken of their blighting effects. But this will continue so long as children are allowed to educate each other.

Citizenship is an all-important factor in progress, and though to the simple-minded parents the results of the present "system" of education

may be perfect, to the critic who believes in reform, the absence of moral instruction is responsible for the imperfect specimens of manhood sent into the world to-day to battle with its difficulties. Reform can only be effected by co-operation, not on the part of the adolescents, but on the part of the parents. Although at first the difficulties may seem insuperable, unremitting endeavor, backed by a concentration of purpose, will do much to relegate to the second class athleticism and the classical studies, and place in the front rank the moral welfare of the pupil. When this is accomplished, the material that enters our professional schools, our medical and legal, will be of the best standard; new ideas will not fail of receptivity in minds that are clean and normal; enthusiasm will not be lessened by previous immature ideas indelibly stamped on growing intellects; and sound teachings will not cause a mere ripple on brains made shallow by the frivolities of the present "systems" of our preparatory schools, but will strike deep, so that the student of medicine, especially, when he takes up his onerous duties, will not shirk their responsibility.

PSYCHOTHERAPY AND RE-EDUCATION.

Hypnotism, which was so thoroughly exploited in 1887 and then fell into disrepute on account of blind worship by indiscriminate partisans, is coming into some notice again in connection with psychotherapy. Psychotherapy, as practiced today, is a combination of education, explanation and persuasion, but fundamentally suggestion plays no minor part. Suggestion was the cardinal point in hypnotism as taught by the Nancy school, and it is no exaggeration to state that without our knowledge of suggestion-therapy, psychotherapy would not now be a study. The evolution of this new treatment is one of interest and import. In the dim past, when Hippocrates lived, suggestion was employed in the cure of functional disease. Later religious teachers developed methods of conscious psychotherapy, by persuasion, to aid those who consulted them, in banishing false ideas, scruples, or fears. Nor should we forget miracle cures; the royal touch; the endeavors of astrologers and alchemists. Paracelsus brought magnetism into vogue, then the world heard of mesmerism, which was followed after the lapse of years by hypnotism.

Dr. Lewellys F. Barker, who visited the Pinel ward of the Salpêtrière in 1904, was so impressed with the method as followed by Prof. Dejerine in the treatment of the psychoneuroses, especially hysteria and neurasthenia, that on his return home he at once instituted it at the Johns Hopkins Hospital.

According to a paper published in the *American Journal of the Medical Sciences* for October, the treatment is simple in the best sense of the word. Each bed is surrounded by drawn curtains so that the occupant does not see or communicate with her neighbors in the ward. When

the physician makes his rounds, the curtains are opened, the patient is told of her nervous condition, the cause of it is explained, if any improvement has taken place it is mentioned, and finally she is informed that she will get well. Excess of food is not overlooked in neurasthenic women, otherwise the treatment is the same as in hysteria. Drugs are tabooed. Paralyzes, contractures, anorexias, nervous crises of months' or years' duration disappear in a few days, weeks or months.

Here we have a large field for excellent work. Re-education, when it is taught by an earnest and untiring student of functional nervous diseases, cannot but be of benefit. Observations made in a rather desultory way have convinced us often that a functional disorder is robbed of the terrors with which the mind is beset by confidence of the patient in the doctor, and vice-versa, and by free and unhampered explanations. Now that suggestion-therapy is frowned upon by scientific minds, let us hope that the enthusiasm attending the efforts of men like Dejerine, Dubois and Camus, sincere advocates of psychotherapy, will not be evanescent, but have a permanency so that a secure position will be granted this new treatment in the bead-roll of medical progress.

A LESSON FROM GERMANY.

A report comes from Germany, via the *British Medical Journal*, that quite recently a means has been affected to relieve general practitioners of the onus of work on Sunday. With an ingenuity rather French than German, the municipalities of Freising and Frankfort have accomplished the solution of this stupendous problem. A small number of physicians are deputed to attend patients every Sunday afternoon, the volunteers or appointees changing from week to week. In this way, nearly every practitioner is called upon during the year to do his fellow practitioner's work.

This is certainly in line with the altruistic spirit of the age. The altruism is so complete and so far removed from gross materialism that even the article in the practical *British Medical Journal* pays no attention to the division and distribution of fees. We are in the dark whether the men forming the municipalities give the Supermen among the doctors the larger, or the Undermen, meaning the real workers, the smaller share. Or do the half dozen doctors who are appointed get the money, to do with it as they please? Considering that for some occult reason there are just as many patients Sunday afternoon as any other, we make bold to state that the appointees are justly entitled to the full stipend.

We have often remarked that in Utopian articles it is always well to forget to mention these minor details, for it is a fact that the beauty of the picture is forever destroyed by smirches which reek of gain. Still, being Americans, we deem the process most impracticable for many

reasons, the principal one being that as yet American physicians have not divorced remuneration from science. In fact, one of the aims of science with us is to unite with earnestness and endeavor a material gain, so that our serenity of mind shall not be lessened by the petty annoyances incident to the art of living well.

Perhaps, in the land of Schopenhauer and Nietzsche, conditions when philosophically considered, may be different to ours; nevertheless with our limited knowledge of human nature we stand unconvinced that in pragmatic Germany, where utilitarianism occupies a higher plane than elsewhere, no complications result from the practical working of this visionary plan to lighten the labors of the general practitioner.

EUGENICS—THE FUTURE OF MAN.

When Charles Darwin, the greatest biologist of any age, gave the best evidence of his genius to the world, the nineteenth century stood aghast, and loud were the denunciations from the press and pulpit. That we of the twentieth century are not more tolerant of originality and daring is shown in the antagonistic spirit with which the subject of eugenics—the future of man—has been combated even by those whom one would imagine had imbued the idea of the proven truth of the thesis implicit in Darwin's greatest work.

In the clear light of sound judgment eugenics is the natural outcome of Natural Selection, with this difference that whereas the Darwinian truism was limited to natural selection, the Galton theory insists on the benefits which would accrue from conscious selection. With Darwin, the dictum, the survival of the fittest did not mean the best as the unthinking part of the public persisted in maintaining and still maintain despite illuminating articles to the contrary but those best adapted to the conditions of their environment. These conditions make possible man's moral sense and higher intellectual faculties, and following the laws of cause and effect, the fittest coincide with what is generally called the best. As can readily be seen if those best adapted to their environment outlive those badly conditioned on account of physical, mental or moral defects, an improvement must necessarily take place in the human breed.

Eugenics has too much aggression to be satisfied with natural selection, it boldly voices the feeling immanent in the compulsory thought of the elect of the present century, by demanding, albeit with considerable grace, man's conscious co-operation in connection with the Darwinian teaching.

Mr. Francis Galton, the originator of the theory, advances good and sound reasons for his belief in the physical, mental and moral uplift of the human race, basing them on what was accomplished by his dis-

tinguished cousin's advocacy of natural selection. Despite what superficial critics may say about man being intolerant of interference with his matrimonial intentions, we need cite but a few instances to show, that the so-called independent and restive creature endowed with the highest mental and moral faculties, is quite submissive to many potent social and religious restrictions. Monogamy has already metamorphosed non-monogamous man into a being whose sense of honor is outraged by the mere thought of polygamy.

It requires no great understanding to be cognizant of the fact of man's passivity under the law against the marriage of first cousins and the social custom obtaining when persons very disparate in social status wish to marry. Endogamy has received the sanction of religion and been enforced by law in all ages and in many parts of the world. Finally, we have religious control establishing celibacy. Thus we see that social and religious customs are not new but have been in force æons, accomplishing to some extent by unconscious eugenics what Mr. Francis Galton wishes to achieve to-day by making his theory part of the national conscience—a new religion. If interference in the past, as mentioned above, was for the good of the race, and this must be admitted by the unbiased, how much greater will the improvement be when conscious eugenics shall control the marriage of the epileptic, the borderland insane, the consumptive and the criminal.

LITERARY NOTES.

Heineman, of London, will shortly issue *Medical Hygiene*, the Harben Lectures of Dr. Elie Metchnikoff.

The Organization, Construction and Management of Hospitals, by Dr. Albert J. Ochsner, has recently been published by the Cleveland Press of Chicago. It is a work of interest to those contemplating the erection and management of modern hospitals.

Surgery: Its Principles and Practice, edited by Dr. W. W. Keen, of Philadelphia, the first volume of which has just been published by W. B. Saunders & Co., will consist, in its complete form, of five octavo volumes of about 800 pages each, and will contain over 1,500 illustrations. There are sixty-five contributors of various nationalities, all recognized authorities in the several provinces.

The Macmillan Company have in preparation *Alcohol and the Human Body*, a Study of Modern Knowledge on the Subject, by Sir Victor Horsley and Miss Mary Sturge, M. D.; *Collected Papers on Circulation and Respiration*, by Sir Lauder Brunton; *Studies in the Bacteriology and Etiology of Oriental Plague*, by Dr. E. Klein; *The Clinical Study of Epilepsy*, by Dr. W. Aldren Turner; a new volume of *The Cambridge*

Natural History, dealing with Protozoa, Coelenterates, Echinoderms, etc.; and Some Points in the Surgery of the Brain and Its Membranes, by Mr. Chas. A. Ballance.

Dr. Rodolfo del Castillo y Quartiellers, Ophthalmic Surgeon to the Instituto Rubio of Madrid, author of *Epigrafia Oftalmologica Hispano-Romana*, and a monograph on the Code of Hammurabi and Ophthalmology in Ancient Babylon, has recently published a work dealing with ophthalmology in the time of the Romans (*Oftalmologia en Tiempo de los Romanos*). In this work special studies are made of the seals of Roman oculists. A chapter is devoted to that of Caelius Diadumenus, generally known as the Madrid seal. Inscriptions on the tombs of Roman oculists are treated in another chapter. Considerable space is devoted to the collyria used by Roman oculists as well as therapeutics, *materia medica* and operations on the eye. An extensive bibliography and an epilogue add value to the book. Needless to say, Dr. Castillo is no mere pedant with a dry-as-dust literary style, but a writer of grace and distinction which make his latest contribution enjoyable alike to all readers, be they learned or not in diseases of the eye or in archæological lore.

A few years ago it was a common experience to hear the late Lord Acton spoken of as the historian who had never written a line of history. It is only since his death that the work of the Cambridge Regius Professor has appeared in its true light. Although it is true that Lord Acton's productiveness was small as compared with the enormous extent of his learning, yet he managed to pack a considerable amount of significant material into the works he actually produced. The Cambridge Modern History is of course his monument; although none of the actual writing in that work is credited to him. A volume from his own hand which has just been issued under the title, "Lectures on Modern History," covers substantially the ground of his most famous lectures at Cambridge, and fairly represents him as an author in a field where his authority is unquestioned.

MEDICAL AND SURGICAL PROGRESS.

INTERNAL MEDICINE.

IN CHARGE OF

JESSE S. MYER, M. D.

THE PATHOLOGY AND THERAPY OF GALL STONE DISEASE.—v. Aldor (*Berliner Klinische Wochenschrift*, No. 38, 1906).—Based upon the observation of others as well as upon his own experience in the treatment of gall stones, the author discusses the medical treatment of gall stones, and recommends the greatest care in the selection of the surgical cases. According to Riedel's figures two million people in Germany have gall stones, but of this number only one hundred thousand have "gall stone disease," that is, have clinical manifestations. He calls attention to the fact, too, that in autopsies many cases of gall stones are discovered in which there has been no evidence of their existence during life, and in which the mucous membrane shows no pathological changes. The author has frequently seen cases in which gall stones unquestionably existed, enter into a latent state without the gall stones ever having been passed. On the other hand he has seen cases, in which a large number of gall stones have been passed, persist in spite of the fact. Korte states that he has operated upon cases with typical symptoms of cholelithiasis and found an infectious cholecystitis with no gall stones present. In seventy-six operations he has made careful bacteriological examination with positive results in all.

These facts together with many interesting observations of the author himself lead him to believe that surgical interference was justified in a very small percentage in many of the cases. The early operation in cholelithiasis is seldom if ever indicated because gall stone is a benign disease in which there is a great tendency to absolute cure. The treatment will depend, of course, upon the individual case. The author, however, leans naturally to the Carlsbad treatment.

NINE CASES OF APPENDICOSTOMY AND CECOSTOMY FOR THE RELIEF OF CHRONIC DIARRHOEA.—Gant (*Boston Med. and Surg. Journ.*, Sept. 6, 1906).—The author recognizes the fact that the original cause of chronic diarrhoea is most often above the ileo-cecal valve, but also believes that "the lesions in the colon, sigmoid and rectum thus produced not infrequently remain as an independent and continuing cause of the diarrhoea long after the original ailment * * * is relieved or cured." He reports nine operative cases, seven of which resulted in cure after other methods had failed. One case was unsuccessful because of a stricture of the transverse colon. One case died as a result of gangrene of the appendix and cecum, showing that the operation is not without its own dangers. Irrigations of saline solution, ice water, nitrate of silver, etc., were used. Three resistant cases of amebic dysentery were especially successful under this treatment.

REPORT OF A CASE OF SACRO-TERATOMA.—Leopold and Philips (*New York Medical Journ.*, Sept. 8, 1906).—The tumor was an irregular, nodular mass, 14 cm. wide by 7 cm. long, springing from the sacral region of the fetus. The microscope revealed a great variety of tissue elements, sebaceous glands, adipose tissue, fibrous, reticular, and elastic tissue, smooth muscle, hyaline cartilage, bone, ganglion cells, adenomatous glands, etc.

THE INFLUENCE OF A FAT DIET UPON SUGAR WASTE.—Bondi and Rüdinger (*Wien. Klin. Wochen.*, Aug. 23, 1906).—The authors have conducted observations regarding the metabolism of fats and carbohydrates in diabetes. The facts already established that acetonuria in diabetes can be diminished by giving a more liberal carbohydrate diet, and that a high glycosuria may be lowered by increasing the fats, have been the basis of their experiments. They present several tables showing the influence of variations in the diet upon the sugar and acetone output, and from a comparison of these they conclude that when a certain ratio is established between the ingested fat and carbohydrate there is a considerable diminution both in the amount of acetone and of sugar in the urine, provided, however, that the case of diabetes is not of the very severe grade, and that the amount of carbohydrate given is not excessive. For explanation of these facts they incline toward the theory advanced by Gellmuyden, that in the normal body the fats enter into definite chemical combination with the carbohydrates (or their derivatives) forming a third substance which enters into the body metabolism.

ANGINA PECTORIS.—Gibson (*Practitioner*, Sept., 1906).—The author believes the disease is due to an interference with the nutrition of the heart muscle, by (1) diminished blood supply, or reflexly by (2) irritation of sensory nerve endings, these resulting in an impairment of the function of contractility. Under the first he places aortic, coronary, or myocardial lesions, and pulmonary and kidney lesions resulting in increased blood pressure. Under the second, disturbances of abdominal viscera, meteorism, gastric catarrh, etc. "The arteries may be healthy or sclerosed, the pressure may be low or high, the rhythm may be regular or otherwise." The nitrites and ethyl iodide are recommended in acute attacks, five drops of the latter with ten drops of chloroform being especially favored. Preventive treatment deals with the causes as outlined; regulation of the diet, respiratory movements, massage, heart tonics, etc. The iodides in chronic hypertension and the bromides in reflex irritability and neurasthenic tendencies are recommended.

INJURIES TO INTERNAL ORGANS THROUGH THE USE OF ROENTGEN RAYS, AND PRECAUTIONS FOR PREVENTING THEM.—Kraus (*Muench. Med. Woch.*, Sept. 4, 1906).—French authors first directed attention to the fact that following the use of the x-ray for therapeutic or diagnostic purposes, clinical manifestations, such as headache, palpitation of the heart, insomnia, digestive disturbances, etc., often developed in the patient. These observations led them to the conclusion that the internal organs as well as the skin may suffer injury from the application of the rays.

Since their publication many cases have been reported—diarrhœa, urinary and menstrual disturbances, manifestations similar to those of sun-stroke, etc., have often been observed. The author reviews the literature on this subject and recommends various appliances, methods and precautions for preventing these injuries both to the patient and the operator.

THE CURABILITY OF TUBERCULOUS MENINGITIS AND THE THERAPY EMPLOYED.—Riebold (*Münch. Med. Woch.*, Aug. 28, 1906).—The author reports an exceedingly interesting case of recovery from tuberculous meningitis in a girl of 16, with typical symptoms, the diagnosis being confirmed by the finding repeatedly of bacilli in the spinal fluid and by the successful inoculation of guinea pigs. The patient was treated by daily spinal puncture, with a total of 574 ccm. withdrawn in 24 punctures. Motor and sensory aphasia were prominent symptoms and lasted sometime into convalescence. The author thinks good can be done by the spinal puncture, and advised its daily practice as long as the intraspinal pressure remains at 25 cm. of water, or above, and withdraws 25-30 ccm. of the fluid.

PATHOLOGY AND BACTERIOLOGY.

IN CHARGE OF

CARL FISCH, M. D.

NEW METHOD OF INCREASING THE NUMBER OF TYPHOID BACILLI IN BLOOD.—Meyerstein (*Münch. Med. Woch.*, 1906, No. 38).—By Conradi and Kayser it has been shown that the addition of bile to blood to be examined for the presence of typhoid or paratyphoid bacilli will greatly increase the number of bacilli primarily present and thus facilitate their cultural isolation. Meyerstein extended the method to the use of the active bile constituent, the biliary acids, for the preparation of which he gives a simple method. A small amount of the substance added to the blood prevents coagulation, and after a short period of incubation shows a great increase of the number of typhoid bacilli that could be demonstrated primarily. In this way he often demonstrated them, before the Widal reaction was present. The method is well adapted to general use and much more convenient and certain than all of the other procedures used for the cultivation of the bacilli. It can easily be performed in the sanitary work of health departments and other centers of bacteriologic examination. As to diagnosis, the results would be quicker and more reliable than by the Widal reaction as the latter is usually employed.

THE PRECIPITATE REACTION. A CONTRIBUTION TO EARLY DIAGNOSIS OF TYPHOID AND OTHER INFECTIONS.—Fornet (*Münch. Med. Woch.*, 1906, No. 38).—While the precipitate reaction has been of great importance in the differentiation of many biologic questions, this reaction has not been utilized as far as the bacterial precipitins are concerned. Fornet has found that the serum of an animal injected intravenously

with certain cultures gives a precipitate with an immune serum prepared with the same cultures. It does this at a time when no agglutinative or bactericidal qualities have yet appeared. In these early stages of infection, therefore, this precipitinogen is already present and can be demonstrated by its action on immune serum before the other serum reactions have become established. The application of the method to several cases that later proved to be typhoid proved positive in the first days of the disease. The Widal reaction was present at a much later period. The idea of utilizing the precipitin reaction for early diagnosis recommends itself in suspicious cases where need of an early diagnosis is necessary. Theoretically, the method is very important and will lead to a closer understanding of the precipitin-phenomenon.

THE INTESTINAL ORIGIN OF PULMONARY TUBERCULOSIS AND THE MECHANISM OF THE TUBERCULOUS INFECTION.—Calmette and Guérin (*Ann. de l'Inst. Past.*, 1906, No. 8).—The work of Calmette and Guérin is an indirect consequence of the pronouncements made by Behring about two years ago on problems of tuberculous infection. While many of the latter's statements must be renounced because unjustified and unsupported by experimental or clinical facts, we must admit that they have furnished a stimulus for intensive work on many problems that were considered solved by clinical, statistical and even experimental data. The port of entry of the tuberculous virus in the most frequent localization, the lungs, has been thought to be by direct inhalation into the structures of these organs, at least in the majority of cases. Flügge, even after Calmette's publication, tries to confirm this conception by numerous experiments, original in their method, it is true, but not excluding the possibility of the action of those factors which Calmette and Guérin have positively shown produce the same clinical condition as that supposed to be due to inhalation. Furthermore, they have shown that direct inhalation and infection occur, but that the picture and character of the primary lesions in these cases are totally different from the vast majority of cases in which beginning pulmonary infection can be studied. It is especially this demonstrative exhibition of the total difference in pathologic effects and nature of the intestinal and inhalation infection that forms the authors' most convincing argument. We must admit, therefore, that slowly and gradually our ideas concerning the avenue of the infection have changed, even in the clinical consideration of tuberculosis. Behring has stimulated closer observation, deeper search, and instances where the inhalation theory cannot explain the course and the progress of the disease have become very numerous. The difficulty lies in the human race where only seldom, still too infrequently, the pulmonary disease is recognized in its incipient condition. That it is impossible from advanced processes to determine how the infection took, was recognized in this condition as well as in other pathologic processes; their origin can only be studied in the beginning. This Calmette and Guérin have done, and thus they have accumulated a bulk of experimental evidence that is sufficient to be looked upon as conclusive also for the processes going on in the human disease. One of the most important demonstrations is the proof that the tuberculous virus can leave the port of en-

trance without causing any histologic alterations in it. This has been demonstrated previously by Behring, Baumgarten, Uffenheimer, etc., but it has never been made so plain and free from objections as have the French authors. There is no doubt that the conception of the primary entrance of tubercle bacilli along the whole length of the gastrointestinal tract, beginning with the buccal cavity, will in the future play the main part in attempts at prevention. In fact very few observations could be cited in which a direct inhalation was accessible to direct proof. The many other suggestive results obtained, for instance the quantitative relations of the virus to the activation of infection, etc., cannot be followed here in detail. Calmette's and Guérin's paper, theoretically and practically, is of immense importance and will materially aid in the more successful battle against the disease. It will also sweep away many inconveniences caused by the reign of the inhalation theory.

A STUDY OF THE SO-CALLED INFECTIOUS LYMPHOSARCOMA OF THE DOG.—Beebe and Ewing (*The Journ. of Med. Research*, Vol. XV, No. 2).—The study of a canine disease, characterized by transmission through coitus and by tumors of the genital organs, by multiple secondary tumors of the skin and metastases into various lymphatic glands, has been undertaken by many observers. The main feature of the process, the immense infectiousness of large, well defined tumors, has caused Beebe and Ewing to make a thorough experimental investigation of the disease to contribute to the general problem of tumors. The disease is widely distributed over Europe and is not uncommon in North America. Both sexes are affected, mostly in the young or middle aged state. As to the clinical phenomena, it may result in spontaneous recovery, but generally it ends in cachexia and death. The tumor masses consist of a tissue, in some respects resembling the large celled human lymphosarcoma. The authors point out certain histological differences that make it doubtful if the name lymphosarcoma is correct. The main result of their investigations is a refutation of the assertions of Bashford, Murray and Cramer, who, studying the same disease, maintained that inoculations of tumor tissue resulted in disintegration of this tissue and in a stimulation of the surrounding cells of the inoculated animal, taking on the character of tumor cells. By careful experiments Beebe and Ewing have shown that this is not the case, but that in spite of the disintegration of the majority of the inoculated cells, portions always remain, which by the presence of mitoses and frequent divisions, demonstrate that they are the builders of the tumor. This point is very important as it does away with the presence of a parasite which English authorities supposed to be the cause of the tumor formation. If such parasite exist it must be in such intricate connection and union with the tumor cells that we cannot imagine such a possibility, and certainly we do not know of any analogous condition in other parasitic infections. The main value of the work is an almost conclusive demonstration of the tumor nature of the nodules, which in regard to growth and dissemination, or metastasis, behave like other well-known sarcomata. The authors express themselves in regard to the parasite question, in these words: "Our only knowledge of the parasite's existence is its supposed responsibility for the growth

activity of the tumor. Since the life of the parasite and the manifestation of its activities in producing a malignant growth are absolutely dependent upon the transfer of a living tumor cell from one individual to another, there can be no objection to considering the tumor cell the essential infecting agent in the process of transmission. Such conditions imply a symbiotic relation between the two consociating cells that is without analogy in such cases as have been investigated in the animal or vegetable kingdom. The conditions require so intimate and vital a relation between parasite and tumor cell, that it is impossible to make any distinction between them."

The detailing of the modes of transmission in experiments may be omitted here. Attention is called to the paper mainly on account of the great importance it will have in facilitating experimentation in various lines on the nature of tumor growth. As to the origin of this tumor, naturally the work gives no explanation.

DIAGNOSIS.

IN CHARGE OF

ALBERT E. TAUSSIG, M. D.

THE AUSCULTATION OF VERTEBRAL COLUMN, SACRUM AND PELVIS.—Ludloff (*Muench. med. Wochenschr.*, 1906, No. 25).—The writer makes much use of auscultation and percussion, especially of the former, in the diagnosis of surgical affections of the bones. He uses percussion chiefly to define accurately the seat of pain, over which area he then auscultates carefully, often with the most astonishing result. The method is most valuable in affections of the vertebral column, the sacrum and the pelvis. Thus in the lumbar pain of old women, in which an x-ray examination is usually quite negative, the writer has found on auscultation a distinct cracking and creaking when the spinal column was moved. The seat of the trouble was usually the articulation of the sacrum with the lumbar spine. The sounds were confined to a small circumscribed area, being absent elsewhere over the vertebral column. The inference of a hypertrophic arthritis deformans localized there seemed natural, and indeed a renewed and more careful x-ray examination often showed the presence there of small deposits on the articulating surfaces. This affection seems to occur much more frequently than is generally recognized and is the cause not only of the usual dull back-ache but of lumbar and sacral neuralgias and not infrequently, if the intervertebral foramina are affected, of true sciatica. The writer has also auscultated the vertebral column in cases of occipital headache and twice has come across a distinct friction rub between atlas and occiput as well as between atlas and axis. In such cases the proper diagnosis is of great therapeutic importance. The writer reports a number of similar cases of great interest for which the reader must be referred to the original article.

GLYCOSURIA AFTER FRACTURES.—Konjetzny (Inaug-Diss. Ref. in *Wiener klin. Wochenschr.*, 1906, No. 31).—In 19 cases of fracture, one of them complicated, the writer tested the 24 hours' urine for sugar. Whenever the urine did not contain sugar during the first or second day after the trauma, grape-sugar was given with the food in order to demonstrate the presence or absence of an alimentary glycosuria. In 8 of the 19 cases (42 per cent.) a spontaneous glycosuria occurred; in 5 cases (26 per cent.) an alimentary glycosuria was elicited. The other cases (32 per cent.) gave a negative result. The average duration of the glycosuria was 3 to 4 days, the amount of sugar secreted rapidly diminishing. The cause of this glycosuria is not clear. It may be fat-embolism, or more probably the setting free by means of the destructive action of the osteoclasts of intracellular enzymes that exert an inhibitory action upon the normal glycolytic ferments. In any event this form of glycosuria must make us cautious in the interpretation of the results of urine analysis after trauma.

A NEW MODIFICATION OF THE BENZIDIN TEST FOR BLOOD.—Schlesinger and Holst (*Deutsch. med. Wochenschr.*, 1906, No. 36).—The importance of careful tests for blood in the stool can hardly be overestimated. It is often by this means alone that obscure cases of gastric ulcer or of incipient gastric cancer can be diagnosed. The usual tests with aloin or guaiac as ordinarily performed are not sufficiently delicate nor entirely reliable, whereas the preliminary manipulations necessary to render them sharp and delicate are complex and troublesome. The benzidin test as described by Schumm, on the other hand, is so excessively delicate as to give a positive reaction with every normal stool. The writers have accordingly endeavored to elaborate a method which shall at once be simple and delicate, while at the same time not too delicate for clinical purposes. Their method is as follows:

I. Into about 2 cc. glacial acetic acid drop a little benzidin (Merck) so as to produce a saturated solution. Set aside for a few minutes for saturation to take place.

II. A piece of stool about the size of a pea is placed in a clean test tube filled to about one-fifth its height with water and rubbed up with a glass rod. Heat the emulsion to boiling.

III. Into a clean test tube 10 to 12 drops of the benzidin solution, add a few cc. of 3 per cent. hydrogen peroxide and finally a few drops of the boiled feces.

IV. In the presence of blood a blue color results, unless the blood is present only in the smallest traces. In that case the color is bluish green or green. The reaction is usually instantaneous but may require half a minute.

The test should not be performed until the patient has been put on a diet free from meat for at least three days, since the test has been found positive 60 hours after the last meal containing meat. Its delicacy is shown by the fact that 10 drops of blood taken with the food suffice to render the test positive with the corresponding feces.

This same modification of the benzidin test was also found to give trustworthy results when applied to stomach contents.

PHILIPPOWICH'S SIGN IN TYPHOID FEVER.—Minciotti (*Gaz. d. osped.*, 1906, No. 36).—In 1893 Philippowich called attention to a symptom which he considered pathognomonic for typhoid fever. It consisted of a dirty yellow discoloration of the skin on the palms of the hands and the soles of the feet, suggesting the stain produced by picric or nitric acid. The importance of this sign has been recognized chiefly by French authors. It seems to occur most markedly and frequently in children, less so in women and least in men. The writer again calls attention to this somewhat neglected sign and reports in detail a case in which it was accompanied by violent pain in the affected areas. From a study of his cases he concludes that while most frequently found in typhoid fever and therefore of some diagnostic importance, it may also occur in anthrax, miliary tuberculosis and empyema.

PSEUDO-CHYLOUS EXUDATES.—Zypkin (*Wien. kl. Wochenschr.*, 1906, No. 34).—In two cases of tuberculosis, complicated by peritonitis, the writer obtained on tapping, a milky fluid that macroscopically could not be distinguished from a chylous exudate. Microscopically, however, no fat was found. The cause of the opalescence is not clear; it may have been due to the imperfect solution of certain of the constituents such as lecithin, globulin, nucleo-albumen and the like.

THE TECHNIQUE OF THE EXAMINATION OF THE URINE AND FECES IN SUSPECTED CASES OF DISEASE OF THE PANCREAS.—Cambridge (*Surg., Gyn. and Obst.*, 1906, III, No. 3).—Some two years ago, Cambridge announced his discovery of the presence in the urine of a carbohydrate yielding a certain reaction and present apparently only in acute and chronic pancreatitis. The tests for this substance were complex and somewhat difficult of execution. He has since worked out a simplified method which is as follows: To 20 cc. of the clear, filtered urine, which must be free from sugar and albumen, 1 cc. of strong hydrochloric acid is added and the whole gently boiled for 10 minutes. Then cool, replace the evaporated water and neutralize by adding 4 g. lead carbonate; free from excess lead by adding 2 g. magnesium sulphate and boiling; filter until clear. To 10 cc. of the filtrate, in a small flask with a funnel to act as condensor, add 8 cc. distilled water, 8 g. phenylhydrozin hydrochlorate, 2 g. powdered sodium acetate and 1 cc. of 50 per cent. acetic acid. Boil for 10 minutes and filter while hot. In well-marked cases of pancreatitis, a light yellow flocculent precipitate should form in a few hours, but in less advanced cases it may be necessary to allow the preparation to stand over night before a deposit appears. Under the microscope, it is seen to consist of long, light yellow, flexible, hair-like crystals, soluble in 33 per cent. sulphuric acid. To exclude traces of sugar undetected by the preliminary reduction tests, a control experiment should be carried out by treating 20 cc. of the urine as above, excepting for the addition of hydrochloric acid. If sugar is present, it must be removed by fermentation. This test at first sight seems very complex. It is, however, not really so and can readily be performed by any one with elementary laboratory facilities. In a large number of cases in which the test was applied, the author always found it present when operation or

autopsy showed the existence of a pancreatitis, never apparently when pancreatitis was absent. As regards the feces, he advises besides the usual microscopic and chemical methods, a rough determination of total, neutral and acid fats. It seems to the abstractor, however, that the microscopic determination of the extent of fat and meat digestion would pretty well serve the same purpose. The writer does not claim that his methods are pathognomonic, but only that they are useful aids to diagnosis. His experience on the pathologic side and that of Mayo Robson on the clinical seem to show that the probabilities of an erroneous diagnosis being made in cases of suspected pancreatic disease are appreciably diminished if the results of a careful examination according to his methods of urine and feces are considered in conjunction with the clinical evidence.

FREE HYDROCHLORIC ACID IN STOMACH CONTENTS.—Dresler (*Hofm. Beitr. z. chem. Phys. u. Path.*, 1906, Nos. 5-7).—Dresler's investigations into the nature of the acidity of the gastric juice show clearly that free hydrochloric acid may be present even when the congo-reaction and the other color reactions are negative.

THE DIAGNOSTIC VALUE OF TUBERCULIN.—Bandelier (*Beitr. z. Klinik d. Tuberk.*, 1906, Vol. VI., No. 1).—This entire number of the journal is devoted to articles by Bandelier. He is still strongly impressed with the diagnostic value of tuberculin injections. They must, however, be administered according to Koch's original directions and no reaction should be considered negative unless 10 mg. have been injected at least twice at a sufficient interval. The reaction may also be obtained when tuberculin is inhaled. Bandelier, however, decidedly prefers the hypodermic method for diagnostic purposes and still more for therapeutic ones.

THERAPEUTICS.

IN CHARGE OF

WALTER BAUMGARTEN, M. D.

THE NEUTRALIZING EFFECT OF KIDNEY EXTRACT ON THE TOXIC INFLUENCE OF URAEMIC BLOOD.—Sutter (*Compt. rend. hebdom. de Biol.*, No. 27, 1905).—The blood of a uræmic animal injected into a normal one diminishes diuresis, and may even produce anuria, the uræmic blood having a specific inhibitory action on the renal epithelium. An antitoxin, antagonistic to this toxic action of uræmic blood, may be obtained from normal kidneys by making an extract with physiological salt solution or glycerin. The antitoxic action of the extract may be demonstrated *in vitro* by mixing it with uræmic blood, which, on injection into an animal, fails to produce its usual inhibitory result; it may also be shown by following the injection of uræmic blood by an injection of the extract, which also prevents the usual diminution of the urine. The albuminuria which follows such injection may be produced.

by the toxins contained in the uræmic blood, but Sutter is inclined to think that it may arise quite as well from the (hæmolytic) action of the blood aside from the uræmic toxins which it may contain. The results of this investigation give a theoretical basis for the administration of kidney extracts in diseases of the kidneys.

THERAPY OF BRONCHIAL ASTHMA.—Zuelzer (*Therap. d. Gegenw.*, Sept., 1906).—The analysis in the Pharmacological Institute of Bonn of Tucker's asthma cure, a proprietary inhalant, showed that it consisted essentially of sodium nitrite and atropin, one gram of the latter to 100 g. of the liquid. The effect of many drugs when absorbed through the tracheal mucous membrane is very similar to the effect when given hypodermically. This leads Zuelzer to direct attention to the fact, generally overlooked, that the atropin hypodermically is a very efficient agent in the acute asthmatic attack. It has been shown experimentally that stimulation of the vagus causes a contraction of the bronchial muscle bundles, which is followed by a progressive distention of the lungs. This may be seen by removing, in the rabbit, the intercostal muscles, and observing that the lower border of the lung is gradually pushed down lower and lower. Zuelzer reports a case in which, probably as a result of intestinal intoxication due to a prolonged constipation, there was orthopnea, expiratory dyspnea, depression of the lower border of the lungs to the right rib in front, slow pulse (60), and a vagus very sensitive to pressure; the picture of bronchial asthma without the piping, musical rales on auscultation. After increasing in severity until the patient was on the verge of collapse, this attack was controlled within fifteen minutes by a hypodermic injection of 1 mg. of atropin sulphate. The writer, therefore, considers the essential character of the asthmatic attack to be a vagus irritation from some cause. The associated inflammation and congestion of the bronchial mucous membrane he considers secondary. He urges the more frequent use of atropine hypodermically in these attacks as being fully as efficient, more rational, and free from the disagreeable effects of morphine, with which, in case of need, it may be alternated with advantage.

THE TREATMENT OF TUBERCULOUS MENINGITIS.—Riebold (*Münch. med. Wochens.*, No. 35, 1906) reports the cure of a case of tuberculous meningitis in which the diagnosis was confirmed by the finding of tubercle bacilli in the spinal fluid and also by inoculation of guinea-pigs. The treatment consisted in daily lumbar punctures, which were continued for six weeks. The improvement in general condition and in individual symptoms was striking after each puncture. The frequency with which these must be done should be controlled, (1) by the pressure under which the cerebro-spinal fluid is found to be and the amount which may be obtained under a moderate pressure; and (2) by the urgency of subjective symptoms, and particularly of symptoms of intracranial pressure; (3) the amount of albumin in the cerebro-spinal fluid tends to diminish as improvement progresses. The writer offers this method of treatment as one which holds more hope, even though slight, than any other previous method.

EFFECT OF X-RAYS ON CHRONIC BRONCHITIS AND BRONCHIAL ASTHMA.—Schilling (*Münch. med. Wochenschr.*, No. 37, 1906) observed in a case of bronchial asthma that x-rays applied to the chest for purposes of examination greatly relieved the paroxysm and reduced the quantity of sputum, which was great in this case. He repeated the experiment in seven cases of chronic bronchitis, in all of which the cough and dyspnoea were at once greatly improved, the sputum reduced in quantity, disappearing in from three days to two weeks, while at the same time the signs on auscultation gradually improved. The x-rays were given daily, each day over a new area, and when possible over the area in which the greatest number of rales were found. Exposure varied from 5 to 20 minutes. Freedom from cough and sputum continues for two to three months. What the mode of action is the writer does not attempt to determine.

SURGERY.

IN CHARGE OF

WILLARD BARTLETT, M. D.

SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.—Shepherd (*Jour. A. M. A.*).—Although in many instances contraindicated, in a certain number of cases of exophthalmic goitre, operative measures either cure or lead to great improvement. Hyperactivity of the thyroid is probably the cause of the disease; however, the part played by the thymus gland and other causes in this disease complex cannot be ignored. Shepherd thinks early operation is the safest, and the class of cases most likely to be benefited are not the most severe ones, but those in which the gland is more enlarged on one side than on the other, with more definite tumor formation, and in which the gland is not so excessively vascular, and the enlargement in early cases of enlarged thyroid, with mild symptoms in which the gland is soft, vascular and evenly enlarged throughout, the results of operation are usually good. With large vascular thyroid and symptoms of marked toxemia from thyroidism, operations should be avoided. In selected cases, general anesthesia is not considered dangerous. The statistics of various operators show good after-effects and many cures. Seventeen cases are reported. There were three deaths, all in desperate cases; nine complete cures, three were much improved, one relapsed, one lost sight of, though improvement followed operation. Sixteen of the patients were females. Symptoms in all were sufficiently distressing to call for operation. Shepherd does not think the pathology of the disease is definite enough to make a microscopic examination of great importance.

GASTRIC ULCER AND CANCER.—Graham (*Boston Med. and Surg. Jour.*, Aug. 2, 1906).—In 39 out of 81 cases of gastric cancer occurring in St. Mary's Hospital, a pathological examination was made. Fifty-four per cent. of these gave pathological evidence that the cancer had devel-

oped from an old ulcer. There was fair evidence of preceding ulcer in 25 per cent., and 8 cases gave no evidence of preceding ulcer irritation. Of the 39 cases there were 21 who gave long histories, 14 of which gave good pathological evidence; in 6 cases with long histories the evidence was considered only fair; 7 cases with histories varying from two months to two years gave good pathological evidence, and 4, of which the histories covered from one and one-half months to two years, offered fair proof. By the above figures, two points are emphasized: 1. That short histories and ulcer as the old lesion on which cancer is engrafted are not incompatible, as some argue. 2. That ulcer is a fertile soil for cancer.

The clinical history of gastric cancer based on ulcer is reviewed in detail, and the course divided into four periods: First, premonitory stage of gastric ulcer; second, stage of well-developed ulcer; third, transition period; fourth, stage of well-developed cancer. Males and females were affected in the ratio of four to one. The symptoms were present for only a year or less, in three-fourths of the cases. Of the 81 cases all but 8 complained of pain; 68 were troubled with vomiting. In 27 tumor was present, doubtful in three. There was dilatation in 54, and in 36, obstruction. In 32 cases free hydrochloric acid was found, and combined hydrochloric acid was present in 32 cases. Lactic acid was found in 42 cases, fatty acids in 19, and both hydrochloric and lactic acids in 13 cases.

GASTRO-MESENTERIC ILEUS.—Finney (*Boston Med. and Surg. Jour.*, Aug. 2, 1906).—There is a certain group of cases which present symptoms of acute dilatation of the stomach, which at autopsy show in addition to the dilatation an obstruction of the transverse duodenum by the edge of the mesentery, while the small intestines collapse and fill the pelvis. Finney thinks that many cases thought to be acute dilatation of the stomach are really cases of gastro-mesenteric ileus. It is frequently overlooked at autopsy because not suspected. It has not yet been determined whether the gastric dilatation or the obstruction of the duodenum is the primary condition; however, we must recognize that in these two conditions we have factors which may produce a so-called vicious circle. Indiscretions in diet, enteroptosis, debility, surgical operations and narcosis are considered etiological factors by the author. Grave toxemias and severe injuries might be added to the above causes. The author thinks chloroform narcosis comes first of the surgical causes. The symptoms of this condition are frequent vomiting of large quantities of fluid, greenish or yellowish at first, later black; abdominal pain at the outset; distention of the abdomen usually present; tenderness, rapid pulse, normal or subnormal temperature, and constipation. The urine is much reduced in quantity. It would seem that the diagnosis would be easy, but such is not the case. The condition is in the majority of instances mistaken for intestinal obstruction or peritonitis, especially the latter. The most important differential points in the diagnosis are: The characteristic clinical picture described above, the use of the stomach tube, and the presence of succussion. The treatment consists chiefly in the use of the stomach tube and avoidance of the dorsal decubitus. The knee-chest position should be resorted to in stubborn cases. Large doses of strychnine

nin and atropin have been recommended. Gastro-enterostomy usually fails. Manual replacement of the misplaced viscera through an abdominal incision should be carried out when ordinary measures fail. The prognosis is grave, most cases ending fatally.

THE FURTHER DEVELOPMENT OF THE OPERATIONS FOR HIGHLY SITUATED CANCERS OF THE RECTUM.—Kraske (*Archiv. für klinische Chirurgie*, 80 Band, 3 heft).—It is a matter of more than passing interest to note what the father of this kind of surgery has to say of late developments in a field of which he was the pioneer. The early operators did what is known as a combined operation, when, having commenced behind, they found it impossible to proceed any further and as a last resort opened the abdomen in an effort to complete the work. The mortality which attended such operations was naturally very high and discouraging, to say the least. Today the combined operation should be taken to mean exactly the reverse of what has just been stated, namely, the abdomen must first be opened, and then the work must be supplemented through the lower and posterior route. There are numerous reasons why this method of procedure must be followed; the principal ones are that asepsis is conserved and, further, that many cases cannot be correctly judged as to operability until the abdomen has been opened. In France it has been the custom for some time to divide the bowel and at once make an artificial anus before proceeding to extirpate the growth. Our author will not say that he is decidedly averse to such a procedure in every case; however, he does not do this when there is the slightest possibility of rejoining the divided intestine and re-establishing the natural passage. For him the normal procedure must always be a resection rather than an amputation. He first opens the abdomen, then cuts the gut in two, ligates as many vesicles as possible from within, pushes the mass down, and completes the work through a sacral opening after closing the abdomen. Then, as a last step, he pulls down the upper piece of intestine and sews it to the lower. This is a long operation, and hence dangerous, as far as the anesthetic is concerned; hence he advises that spinal anesthesia be used. It is remarkable that this operation has proved decidedly more dangerous in men than women—something which is explained by anatomical conditions.

THE FATE OF SILVER WIRE USED IN SUTURING THE BROKEN PATELLA.—V. Brunn (*Beiträge zur Klinischen Chirurgie*, I. Band, I Heft).—For many years it has been the custom in the clinic at Tuebingen to suture every broken patella where there is much spreading of the particles, as well as old cases in which conservative treatment has been unsuccessful. Silver wire was used, and this was usually run through the bone in the horizontal direction, care being taken to avoid the joint surfaces. The most of these cases were examined years later and with results that could hardly have been expected. Many of the patients complained more or less of painful sensations in the vicinity of the field of operation, even where the functional result proved to be entirely desirable. Apparently this was due to the presence of the wire alone. In fact, one said that he always felt as though something was sticking him directly in the joint.

As above stated, these were all practically cured cases, although in only one of the twelve such instances did the x-ray show the wire to be in the same position and condition as it had been at the operation. In the other eleven the suture material had been broken into many small pieces, and in four patients some of these particles had wandered into the cavity of the knee-joint. It is interesting to study this subject with a view to determining when the wire broke. Evidently this must always have taken place after the patient was out of bed and using the member once more, otherwise it is hardly possible that a complete cure could have been brought about by the wire. Naturally the author concludes that muscular violence had a good deal to do with the breaking of the wire. As a result of his observations along this line, our author gives the following conclusions: (1) Silver wire alone cannot guarantee the permanent position of fragments of the patella, but may break and allow these to spread. (2) A perfect bony union does not by any means guarantee against the wire breaking into pieces. (3) Such particles of wire may find their way into the knee joint, and while they do not always give rise to symptoms in this location, still they are very likely to do so.

The author advises the use of silver catgut instead of silver wire, since just as much can be accomplished by the use of the same.

ORTHOPEDICS.

IN CHARGE OF

NATHANIEL ALLISON, M. D.

COMBINED SUPERIOR TIBIOFIBULAR AND ASTRAGALOFIBULAR OSTEOPLASTY AS A MEANS TO PREVENT SHORTENING OF THE LEG AFTER EXTENSIVE OSTEOMYELITIS OF THE TIBIA OCCURRING DURING ADOLESCENCE.—Kerr (*Annals of Surg.*, Sept., 1906).—The author concludes that the periosteum can be relied upon to produce new bones, and that it is not necessary to wait for two months for evidences of repair on the part of this membrane. He is of the opinion that it is better to remove the shaft of the tibia entirely, when one feels that the vitality of the bone is sacrificed; that in properly selected cases the fibula should be substituted for the tibia as a pressure-bearing bone, in order that continued growth in the length of the leg may be maintained; that on account of the difficulty of rendering the part sufficiently aseptic, through and through drainage should be instituted before the edges of the periosteum are sutured together. He reports a case where this was done, the fibula resting on the astragalus. The result, on the whole, was a satisfactory one.

A METHOD OF DRAINAGE OF THE ANKLE-JOINT.—Bolton (*Annals of Surg.*, Oct., 1906).—In cases that have received open injuries to the ankle, and the joint has become much soiled by the introduction of foreign matter, disinfection is practically impossible, and drainage is necessary to the treatment. The author observed in many cases that the

drainage established was defective and was followed by a spreading cellulitis, general sepsis and at times amputation. He therefore determined to devise a more effective plan of drainage. A study of the anatomy of the joint from this viewpoint showed that it consists not of a single compartment, lined by synovial membrane, but rather of two, one anterior, the other posterior, separated from one another by the astragalus and the two malleoli. It seemed necessary, in order to drain the joint with sufficiency, that space would have to be provided, which would allow access to both sacs and the placing of suitable drains, through which the exudate might be discharged. The plan adopted consisted of excision of the astragalus and drainage through the space created. Since adopting this method, the author has not seen cellulitis of the leg develop, and the final results show the ankle in which there is slight motion, a foot at right angles to the leg, and the length of limb shortened but three-eighths to one-half inch.

THE ESTHETIC TREATMENT OF FRACTURES OF THE CLAVICLE.—Cou-teaud (*Gazette des Hopitaux*, Sept., 1906).—Fractures of the clavicle, from the point of view of absolute juxtaposition and immobilization of the fragments, are, as a rule, unfortunate and disappointing in results. This is especially true when women are the victims of this injury, as slight deformity is apt to be quite noticeable. Numerous appliances have been devised to overcome these results, but all are inefficient. The author decides that the best treatment is repose on the back in bed with the superior extremity placed over the edge of the bed and held in such a position as to keep the fragments in close apposition. This form of treatment has certain slight inconveniences, as slight edema of the upper extremity, but this last only during the first ten hours. It is necessary to have the complete collaboration of the patient, because at the first revolt on his part all that has been accomplished is lost.

CONTRIBUTION TO THE STUDY OF EXTENSION IN THE TREATMENT OF OBLIQUE FRACTURES OF THE LEG.—Merlot (*Th. de Paris*, 1906).—Oblique fractures of the tibia are accompanied by such great deformity and modifications of the static axis that apparatus for extension continue to be the only method to correct these deviations. The apparatus of Hennequin and that of Ombredonne, the latter being a perfection of the former, give excellent results in the correction of the lateral displacement of the fragment. They are each supplied with a shoe and legging, by which forcible extension can be made. These appliances have the advantage of being practical in country practice, and give results that the author finds to be constantly irrefragable.

RIGID SPINE.—Elliott (*Amer. Jour. of Orth. Surg.*, Apr., 1906).—The five observations made by the author are described under the type named by Betcherew as chronic ankylosing inflammation of the vertebral column. The first case was a Russian, aged 37 years, without family history of importance. Six years previous to his appearance he began to have radiating pains about the abdomen, this without fever. Little by little his hips and lumbar region became ankylosed, and the

spinal column became rigid as a bar, presenting a strong upward dorsal kyphosis. He could not walk without the aid of a cane, and the vertebral rigidity persisted under chloroform. He died of tuberculosis. The autopsy showed the vertebral bodies apparently normal. The intervertebral discs were atrophied, even absent anteriorly. The spinal ligaments were ossified in the lumbar region. The costo-transverse articulations were ankylosed. The second case was a Russian of 33 years, who had a history of rheumatism. Costo-vertebral ankylosis was pronounced and made respiration of an abdominal character. There was a very marked dorso-cervical tryphosis and absence of lumbar lordosis. The atrophy of his lower extremities was pronounced. Case three, a German tailor, aged 53 years, exhibited a pronounced kyphosis and limitation of motion at the hips and knees. His disease had existed for eight years. The fourth case, a German of 28 years, had rheumatism and tuberculosis. His marked kyphosis and rigidity had existed for two years and a half. The last case was a Russian of 52 years, whose affection had existed for twenty-two years, and followed a severe attack of articular rheumatism. The author has collected fifty cases of this nature and gives a complete biographical index of the subject. In more than 5 per cent. of the cases, there was history of antecedent rheumatism.

GENITO-URINARY SURGERY.

IN CHARGE OF

H. McC. JOHNSON, M. D.

IRRIGATION AND DRAINAGE OF THE SEMINAL DUCT AND VESICLE THROUGH THE VAS DEFERENS. — Belfield (*Abstract from Proceedings Am. Assn. Genito-Urinary Surgeons*, June, 1906). — The author suggests direct irrigation and drainage, through the vas, in certain diseases of the seminal duct and vesicle, and claims excellent results have followed this method of treatment. The vas is brought up against the skin of the scrotum, an incision made down to and into it, and the cut edges then stitched to the skin, creating a fistula through which solutions may be injected into the vesicle. When desired this fistula may be closed and the continuity of the canal restored. The author has found this method to be of great value in the treatment of the following conditions: Chronic gonorrheal infections of the seminal canal, with or without a gleet discharge; chronic pus infections of the seminal canal in the middle-aged and elderly; acute gonorrheal spermato-cystitis and recurrent epididymitis.

THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS OF THE KIDNEY. — Bevan (*Jour. A. M. A.*, Oct. 6, 1906). — Tuberculosis of the genito-urinary tract, with few exceptions, begins in the kidney, prostate, epididymis, or tubes; and it is here only primary in the sense that in the individual affected they are the overshadowing and important focus of

the disease. They are strictly secondary to a small, unimportant focus in the lymphatic glands, bones or lungs, the infection occurring through the blood.

Renal tuberculosis can and does undoubtedly run, at times, a silent course, without giving rise to any symptoms, even when a single kidney has been entirely destroyed, but with attention to the symptoms and by the use of our improved modern methods of diagnosis, we can generally arrive at a correct conclusion. If the disease is limited to one kidney, but one operation is to be considered—nephrectomy. Nephrotomy with drainage should be made simply as a palliative operation, and with the understanding that, as soon as the condition of the patient permits, a radical operation of nephrectomy should be made. Resection of the kidney is to be practically discarded from consideration. When both kidneys are involved, the treatment must be nephrotomy and drainage in cases in which there are large abscesses, and the fresh air and outdoor treatment of widespread, inoperable tuberculosis.

When operating for kidney tuberculosis, it is unnecessary to remove a diseased ureter, as it gradually recovers after the removal of the primary foci in the kidney proper. There are no more satisfactory results in the whole field of surgery than those which are obtained by an early nephrectomy in unilateral kidney tuberculosis.

PROSTATECTOMY FOR PROSTATIC HYPERTROPHY; WITH SPECIAL REFERENCE TO THE WORK DONE BY AMERICAN SURGEONS.—Guiteras (*N. Y. Med. Jour.*, Sept. 22, 1906).—After doing prostatectomy suprapubically, then going to the perineal route, the author has reverted to the suprapubic method. He says that suprapubic prostatectomy holds the same relation to the perineal operation that the abdominal hysterectomy does to the vaginal, in that it is a better surgical procedure; that the changing of the patient's position simplifies the different steps of the operation; and that in most cases suprapubic prostatectomy is preferable to the perineal on account of the ultimate operative results, the purpose for which the operation is performed. True, the mortality is higher in the suprapubic operation, but the results are better; and it is for the relief of the annoying symptoms and the dangerous complications that we operate.

The author gives in detail his method of operating, and attributes the improved results to better exposure of the gland, so that he can clearly see and show the steps of the operation.

VALUE OF THE INDIGO-CARMIN TEST AS AN AID IN THE DIAGNOSIS OF PARTIAL OR TOTAL URETERAL OCCLUSIONS.—Beer (*Annals of Surgery*, Oct., 1906).—The author speaks very highly of the indigo-carmin test as an aid to diagnosis of ureteral occlusions, used in conjunction with catheterization, citing several cases in which, though the ureters seemed by catheterization to be occluded, yet the indigo-carmin test showed them to be patent. After a study of these cases, the author comes to the following conclusions:

1. The cystoscopic study of the behavior of the ureteral orifices does not suffice for the diagnosis of the ureteral obstructions.

2. The cystoscopic study of the ureteral jet, especially if the urine is normal, is equally insufficient.

3. Ureteral catheterization *per se* cannot determine for us the presence of ureteral obstruction.

4. Similarly, the indigo-carmin test *per se* is as inadequate as ureteral catheterization *per se*, because, though the ureter be patent, indigo-carmin may not be excreted if the kidney under examination is diseased.

5. On the other hand, in ureteral catheterization conjoined with the indigo-carmin test, we have a very satisfactory method of determining the presence or absence of a ureteral obstruction as well as the degree of patency of the ureter, as shown in these cases.

CYSTOTOMY IN THE FEMALE.—Garceau (*Am. Jour. of Urology*, Sept., 1906).—The cases which are amenable to treatment by this operation are the following: Nervous cases, tubercular cases, cases of simple chronic cystitis without infection of the upper urinary passages, and cases of chronic cystitis with infection of the upper urinary passages. The author considers the subject, under the above headings, and illustrates, with reports of cases, the excellent results obtained by cystotomy in all of these conditions. He divides tuberculosis of the bladder into three classes—the incipient, the long standing and the incurable cases; in the latter of which the operation is simply palliative. He feels that in the others, under proper treatment, a cure should be expected. In the third class of cases of cystitis, the main question is when to operate. Chronic cystitis may spread to the upper passages, and it is well not to wait too long for fear this will take place. More virulent forms of the disease are frequently apt to invade the ureter, and chief among them stands gonorrheal inflammation. This form of inflammation gives rise to a great deal of suffering proceeding from the bladder, and one would be more apt to do a cystotomy in a case of this kind than in a cystitis from some other infection. When the disease is due to the colon bacillus, or some of the milder germs, it is best to give the patient the benefit of ordinary treatment before resorting to cystotomy. In cases of non-tuberculous cystitis with infection of the upper urinary passages, chief among which are ureteritis, stricture of the ureter with dilatation of the upper passages, pyelonephritis and calculous diseases of the kidney and ureter. The cure of the disease of the upper passages goes a great way toward eradicating a cystitis, but a great many patients will not submit to a serious kidney operation. A cystotomy relieves the patient from her suffering in a great measure, and if the opening is allowed to remain the kidney will, in some cases, at least, atrophy, and the fistula may be closed. The after-treatment consists in warm boric acid or silver nitrate irrigations, cauterization with silver nitrate stick, or curettage of ulcers as may be indicated. The author gives details of the technique of the operation, the complications which may arise and closure of the fistula.

PROSTATECTOMY IN TWO STAGES.—Chetwood (*Annals of Surgery*, Oct., 1906).—The excellent results obtained by performing prostatectomy in two stages, where the patient, either from age, retention or

chronic disease, is in such a state of debility that radical primary operation would be attended by great risk, are well illustrated by the author's report of a number of these cases. The primary drainage enables the patient to recuperate his powers of resistance and minimizes the dangers of secondary prostatectomy. The author lays particular stress upon the great value of formaldehyde gelatin as a local haemostatic.

TARATOMATA OF THE INGUINO-SCROTAL REGION.—Hilton (*Annals of Surgery*, Oct., 1906).—After a resumé of the literature, the author reports a case in which the tumor was attached by firm adhesions to the structures forming the inner boundary of the internal inguinal ring, extended along the inguinal canal and down into the scrotum, resembling very much a hernia. The cyst-wall was made up of epithelium, sudoriferous and sebaceous glands, and lined by fine lanugo hair. The content was a mealy mass of epidermal detritus and gland secretion.

GYNECOLOGY AND OBSTETRICS.

IN CHARGE OF

HUGO EHRENFEST, M. D.

THE CAESARIAN SECTIONS PERFORMED IN THE CLINIC OF PROFESSOR SCHAUTA IN VIENNA.—Neumann (*Arch. f. Gynaek.*, Bd. 79, H. 1).—The author presents a very exhaustive and interesting report of 180 Caesarian sections, of which 175 have been performed on the living, 5 immediately after death. The results seem extremely gratifying. One hundred and sixty-one mothers made complete recovery, and only 16 died; 161 of the children were alive when their mothers were discharged from the hospital. In 141 cases the typical conservative Caesarian section, after Saenger, was performed; in 15 also the uterus was extirpated after the method of Porro. In 18 cases operation was performed twice. The paper contains brief abstracts from the histories of all the 180 cases, and a thorough discussion of the indications and technique of the operation.

TUBERCULOSIS AND PREGNANCY.—Rosthorn (*Monatsch. f. Geb. u. Gyn.*, Bd. 23, H. 5).—Impregnation does not of necessity lead to an aggravation of a tuberculous process. Serious complications seem comparatively rarer if in patients who became pregnant the pulmonary process was stationary for years, who are in good general condition, and show but few local symptoms in the lungs; who for at least a year were free from fever and pulmonary hemorrhages. A favorable outcome may also be expected if the tuberculous process is well limited to the apex in a patient in good general condition who does not show any elevation of temperature. On the other hand, pregnancy must be looked upon as a dangerous complication in women who suffer from tuberculosis in an acute stage with persistent high temperature; in patients who offer insignificant local symptoms, but in whom an even slight elevation

of temperature does not promptly yield to appropriate treatment; furthermore, in patients in whom the middle or lower lobe is affected; in patients who suffer from a complicating disease of the heart, kidneys or intestines; in all cases of laryngeal tuberculosis, and finally in all patients with a bad family history. The attitude of the obstetrician must at first be entirely expectant. The therapeutic efforts are directed towards improvement of the tubercular manifestations. A premature interruption of the pregnancy can be considered in all cases in which the process is destructive and its progress accompanied by fever; in all patients who are suffering from a complicating disease, especially of tuberculosis of the larynx; finally in women who are losing weight in spite of a careful dietetic-hygienic therapy. Artificial abortion should be given preference over premature labor, the former, as a rule, requiring less dangerous manipulations. It is impossible to give any definite rules as to when pregnancy should be interrupted in tuberculous patients in individual cases. The obstetrician must make his decision after consultation with an experienced internist.

NECROSIS OF UTERINE MYOMATA.—Rouville and Martin (*Arch. General. de Medecine*, Aug., 1906; rev. *Jour. of Obstetr. and Gyn. of Brit. Emp.*, Oct., 1906).—The causes of a necrobiosis of uterine myomata are either torsion of a pedicle or sepsis. It could be expected that subserous myomas are especially liable to necrosis from torsion, but this occurs more frequently in the submucous variety. The degree of torsion in the former varies, according to different writers, from three-fourths of a turn to two and one-half turns, which almost always occur in the direction of the moving hands of a clock. Often the uterus participates in the torsion. On rare occasions this twisting has resulted in a complete spontaneous separation of the uterine body from the cervix; not infrequently the fibroid in this manner becomes detached from the uterus. The gangrene resulting in subserous myomas from twisting of the pedicle is aseptic, as opposed to that occurring in the submucous variety. Interstitial tumors are less affected, but less rarely are exposed to a septic gangrene. Ergot and electrolysis play an important role in the necrosis of fibroids, and pregnancy certainly seems to predispose these tumors to a necrobiotic process.

HOW LONG AFTER CONFINEMENT CAN PLASTIC OPERATION OF THE PERINEUM BE PERFORMED?—Sippel (*Zentralbl. f. Gynaek.*, No. 36, 1906).—This question has been answered differently by different authors. Thus, Fritsch, with a large number of writers, agrees on six weeks, Veit considering even three to four weeks enough. Sippel found that even three months after the confinement the vaginal mucosa may be still so tender and soft that the operation leads to hemorrhages which necessitate packing with gauze. He thinks a secondary plastic operation of the perineum should always be postponed until the mucosa again presents a normal appearance.

PEDIATRICS.

IN CHARGE OF

ALFRED FRIEDLANDER, M. D.

THE WEIGHTS OF THE VISCERA IN INFANCY AND CHILDHOOD.—Bovaird & Nicoll (*Archives of Pediatric*, Sept., 1906), recognizing the need of some definite knowledge of the weights of the viscera in infancy and childhood, have made a careful statistical study of 571 cases in which the weights at autopsy were recorded. The results of their work are presented in tabular form which do not lend themselves to abstract.

Special attention was paid to the question of the weight of the thymus glands. From this it would appear that the general accepted figure, namely, about twenty grammes in infancy, is incorrect. The general conclusions of the authors follow:

1. The study of the average weights of the viscera in infants and children up to the age of five years shows that there is a constant relation between the weights of the more important viscera, thus: (a) The weight of the liver will average seven times that of the heart. (b) The weight of the spleen will average one-tenth that of the liver. (c) The weight of the kidney will average one-ninth that of the liver.

2. That the weight of the thymus gland as commonly given is excessive, owing to the acceptance of pathological glands as the standard for normal conditions.

3. That the average weight of the thymus at autopsy is approximately 6.0 grams.

4. That there is no evidence of a growth of the thymus after birth under ordinary conditions, but that under special conditions the gland does grow and even hypertrophy enormously.

THE LENGTH OF IMMUNITY AFTER INJECTION OF DIPHTHERIA ANTITOXIN.—Sittler (*Jahrbuch f. Kinderheilk*, Sept., 1906).—It is well known that while the prophylactic injection of antitoxin protects in most cases against diphtheria, the protection is not absolute. Sittler, who has studied the subject carefully, comes to the following conclusions as the result of his practical experience:

1. The immunity given by the prophylactic injections lasts from three to five weeks, if the children are not too often exposed to diphtheria in the interval.

2. Unimmunized children are much more susceptible to diphtheria than the children who have been immunized.

3. Catarrhal affections of all kinds, and wounds of the mucous membranes, predispose to diphtheria and tend to shorten the period of immunity.

4. The length of the period of the immunization is not increased by using doses larger than 500 units.

5. Certain children show a greater predisposition to diphtheria than others. It is advisable to isolate these children as thoroughly as may be, so as to avoid the necessity for too frequent injection of antitoxin.

SODIUM CITRATE IN INFANT FEEDING.—Cotton (*Jour. A. M. A.*, Oct. 6, 1906), believes that sodium citrate is of much value in the feeding of infants through its inhibition of dense coagulation of cow's milk in the presence of an acid and rennin. He has found that infants will tolerate a larger proportion of the milk in the feeding mixture when citrated than of any other modification. His experience extends over 112 cases embracing nearly all conditions from simple dyspepsia to marasmus, and ranging in age from the newborn to adults who have suffered from milk dyspepsia. He uses an aqueous solution containing from one to five grains to the dram, and enough of this solution is added to the bottle immediately before feeding to represent one, two or even three grains of the citrate to each ounce of the milk in the feeding mixture, according to the requirements. The feeding mixture may consist of varying dilutions of milk with water or gruels, with the addition of cane or milk sugar, with or without cream. No alkalies are added to the sodium citrate used, it being a neutral salt.

A most noticeable feature in this method of feeding is the large proportion of milk in the feeding that the infant will tolerate without evidences of gastric disturbance, or the appearance of any considerable amount of undigested casein in the stools.

In no case has the author seen any harm resulting from the use of the citrate, although at times the period of use was quite prolonged. The author has also had made a series of experiments to test the physical behavior of citrated milk *in vitro*. As a result of these experiments, he has reached the following conclusions:

1. Sodium citrate in .25 per cent or more retards, and in high percentages will inhibit coagulation.
2. The presence of HCl hastens coagulation.
3. Diluting milk generally retards coagulation.
4. Gruels appear to have little or no effect in retarding coagulation when the citrate is used.
5. The coagula of citrated milk are softer, smoother and more jelly-like, or more flocculent, than those of milk not thus treated.

The author believes that the simplicity of this method furnishes an additional reason for its employment.

THE BACTERIA IN SCARLATINAL AND NORMAL THROATS.—In view of the interest attaching to the role of the streptococcus in the causation of scarlet fever, the investigations of Ruediger (*Journal A. M. A.*, Oct. 13, 1906) are very valuable.

Ruediger examined 154 cases, 51 normal throats, 75 cases of scarlet, 14 of measles, 5 of tonsillitis, 5 of pneumonia, and 4 pharyngitis. His conclusions follow:

Streptococcus pyogenes is constantly found in great abundance on the tonsils of patients suffering from tonsillitis and scarlet fever before the inflammation of the throat has subsided. These organisms rapidly decrease in numbers with the subsidence of the throat symptoms.

Streptococcus pyogenes cannot be considered a normal inhabitant of all healthy throats, although it was found in small numbers in 58 per cent. of the normal throats in this series.

Pneumococci of low virulence were found in 135 of this series of 154 throats.

A large group of organisms which lies between the typical streptococcus pyogenes and pneumococcus was found in all normal throats and in nearly all diseased throats. These organisms have very little virulence for rabbits, and, as they are found in great abundance in practically all throats, they appear to be normal inhabitants of the throat.

Streptococcus pyogenes from normal throats appears to have a slightly greater virulence for rabbits than these organisms from scarlatinal throats.

NEUROLOGY.

IN CHARGE OF

SIDNEY I. SCHWAB, M. D.

A STUDY OF THE METABOLISM IN A CASE OF MYASTHENIC PARALYSIS.—Kauffman (*Monat. f. Psychiatric u. Neurolgie*, No. 4, 1906).—In this paper an attempt is made, in the case of a typical myasthenia gravis, to discover if there exists a metabolic change of sufficient intensity to account for the symptoms. The author calls attention to the fact that, in the published autopsy protocols of the disease, too little care has been taken in the study of the internal organs, it being taken for granted that in the absence of organic changes in the central nervous system no other organ might be affected. The case here presented is a typical myasthenia in a man aged 43 years. A very careful study was first made of the urine, feces, blood, etc., and then the diet was regulated and with a given amount of units the residue in the feces and urine were estimated. The results of this study are more or less vague, as the author found a metabolic disturbance such as is commonly found in disease of the liver. Whether this points to the fact that the myasthenic symptoms depend upon disease of the liver in all instances, the author leaves to further metabolism studies of this kind. At any rate, the attempt must be looked upon as an advance in the study of the etiology of this disease.

A CASE OF AMYOTROPHIC LATERAL SCLEROSIS.—Puscario-Lambrior (*Revue Neurologique*, No. 17, 1906).—A carefully reported case in a man aged 40. The following are noted as of interest in the case: In point of etiology the most careful search failed to find any factor which might be brought into causal relation with the disease. Especially marked from a clinical point of view was the rapid course of the disease, and by the intensity of the spastic quality of the muscles in spite of the great degree of atrophy. The cause of death was the rapid development of the bulbar symptoms which were an early feature of the disease. From the pathological point of view there was a degeneration of the crossed pyramidal tract. The cells of the anterior horn showed the classic picture of degeneration, showing the greatest extent of change in the

cervical region. The hypoglossus nucleus and the vagus showed evidence of degeneration. The bulbar symptoms depended upon the change found here.

A CONTRIBUTION TO THE STUDY OF AMAUROTIC FAMILY IDIOCY.—Poynton, Parsons, Holmes (*Brain*, No. 114, 1906).—This is an interesting contribution to the literature of a somewhat rare disease. Two of the three cases here reported are accompanied by autopsy protocols. In two cases the eyes were examined microscopically so that the cause of the peculiar cherry red spot on the macula is now pretty well known. The red color is due to the chorio-capillaris which is visible through a tiny perforation in the retina in the center of the macula lutea and around this perforation the retina is thickened, this thickening setting off the color of the red background and thus by contrast making the central spot appear more prominent. The conclusions arrived at are as follows: (1) There is strong evidence that it is a primary disease of the nervous elements. (2) The affection is a primary cell disease. (3) The primary change is probably to be found in a disease of the interfibrillar protoplasm. It is not due to arrested development. It is not due to bacterial toxins. It is probably due to some inherent biochemical property of the protoplasm of the cells.

ON THE FREQUENCY WITH WHICH CERTAIN SIGNS AND SYMPTOMS OCCUR IN CASES OF DISSEMINATED SCLEROSIS BEFORE THE DEVELOPMENT OF SO-CALLED CARDINAL SIGNS.—Mackintosh (*Rev. Neurology and Psychiatry*, Sept., 1906).—This paper calls attention to the cases of multiple sclerosis which are not typical and do not present in the beginning the so-called classical signs. The author has a material of 110 cases including a series of 80 cases previously published in this journal. This material is sufficiently large in itself to warrant an analysis. The following points in the histories of the cases are selected upon which attention is directed: (1) Marked variability or remission of symptoms were found in 30 cases. (2) Parasthesia in 23 cases. (3) Arm affection, weak, shaky or tremulous, 12 cases. (4) Sphincter trouble apart from constipation, in twelve cases. (5) Amblyopia 14, diplopia 7, squint 2, vertigo 6, speech defect 3, and epileptiform attacks 2.

OPHTHALMOLOGY.

IN CHARGE OF

JOHN GREEN, JR., M. D.

THE BACTERICIDAL ACTION OF COMPOUNDS OF SILVER.—Marshall and Neave (*Brit. Med. Jour.*, Aug. 18, 1906).—The conclusions reached by Marshall and Neave, as a result of their inquiry into the bactericidal actions of the various silver compounds, organic and inorganic, are certainly surprising. The bactericidal effect was determined both on a mixed culture and on a pure culture of *staphylococcus pyogenes aureus*.

The antiseptic action of the various compounds was determined in two ways—(1) by observing the time taken by minced cooked beef to putrefy in presence of silver compounds of known strength; and (2) by inoculating an agar medium containing a definite quantity of the various silver compounds. Finally, Marshall and Neave carried out certain ingenious experiments for the purpose of determining the power of diffusion possessed by the different compounds.

The summary of the entire investigation is stated by the writers in the following words: "The experiments show that as regards bactericidal action the various silver compounds investigated fall into three groups: (1) Those which are powerfully bactericidal; (2) one—nargol—much less powerfully bactericidal; (3) two—argyrol and collargol—which possess practically no bactericidal action whatever. The first group includes silver nitrate, silver fluoride, actol, itrol, argentamine, argentol, albargin, argonin, ichthargan, largin, novargan and protargol. The bactericidal action of these in solutions containing the same percentage of combined silver is closely similar, and it is practically impossible to place them in any order of activity which would be true under all circumstances.

As argyrol and collargol are not bactericidal, it is evident that the amount of silver which a compound may contain is no criterion of its bactericidal power. Moreover, in view of the results obtained with argyrol, it seems impossible to attribute the good effects which many clinicians have obtained with it to its bactericidal action."

THE TREATMENT OF DETACHED RETINA.—Uthoff (*Monograph*, 1906).—During the past fifty years almost everything conceivable has been tried to induce the retina to resume its normal position. Advocates of medical and surgical treatment have vied with each other in this respect, and yet little or no advance has been made since v. Graefe's time. Of 422 cases treated by Uthoff, 4.25 per cent. recovered as the result of medicinal and surgical treatment, and precisely the same percentage healed spontaneously. The most successful plan of dealing with the condition is still one of "masterly inactivity" both on the part of the surgeon and patient. Uthoff advises that rest, etc., should be given a fair trial first, before any operation is thought of.

ON ANTIPYRIN-KERATITIS.—Inouye (*Klin. Monatsbl. f. Augenheilk.*, July-August, 1906).—Reference is made to a reported case in which antipyrin, taken internally, was responsible for an erythematous rash and the occurrence of corneal erosions. He then reports his own observation of a similar untoward event in a lady aged 48 years, whose eyes became very painful after a dose of 2 grams of antipyrin. The lids and mucous membranes of the mouth, tongue, vulva and anus were much swollen, and both corneæ showed numerous small marginal infiltrations; these together with the other symptoms soon disappeared.

COMBINED IRIDECTOMY AND SCLERECTOMY IN THE TREATMENT OF CHRONIC GLAUCOMA.—Lagrange (*Arch. d'Ophthalm.*, Aug., 1906).—Glaucoma consists essentially "of a dislocation of the equilibrium that

should exist between the secretion and the excretion of the intraocular fluid" (de Wecker). Every surgical intervention designed for the relief of glaucoma must necessarily act either by diminishing secretion or by facilitating excretion. Sympathectomy was utilized for the former purpose, while iridectomy and sclerotomy go upon the principle of hastening excretion. It has been generally recognized that the best results are to be obtained by the production of a pervious cicatrix, but hitherto no simple, certain and convenient way of obtaining this result has been devised. A cystoid scar implies a prolapse of the iris, a thing very generally regarded as undesirable. In the operation proposed, Lagrange believes he has devised a means of making safely a pervious cicatrix in the region of the canal of Schlemm without the least prolapse of the iris.

The steps of the operation are as follows: After the instillation of eserin, an incision is made by means of a narrow blade in the sclera parallel to the upper edge of the cornea at some little distance from the latter, freeing the filtration angle as exactly as possible. In making the section the blade is rotated so as to turn the cutting edge of the instrument a little back. In the result, therefore, the sclera is beveled. When the section has reached the conjunctiva the blade is turned definitely backwards for the purpose of cutting a large conjunctival flap. The flap of the mucous membrane being turned forward over the cornea, the next step is to resect by the aid of small-toothed forceps and well sharpened and strongly curved scissors a small piece of the sclera left attached to the cornea. Lastly, an iridectomy is made, a large piece of iris being removed in two stages up to the angle of the chamber. After healing, one sees beneath the transparent conjunctiva a narrow line representing the weakened portion of the sclera. Lagrange has operated on twenty patients and claims that in every instance the procedure outlined above has produced a cicatrix which allows of ready escape of the intraocular fluids.

LARYNGOLOGY AND OTOTOLOGY.

IN CHARGE OF

WILLIAM E. SAUER, M. D.

A NEW OPERATION FOR EXTREME CASES OF SEPTAL DEFLECTION, WITH PRESENTATION OF A SUCCESSFUL RESULT IN AN ADULT CASE.—Price-Brown (*Laryngoscope*, Sept., 1906).—After discussing the submucous operation and pointing out what he believes to be the dangers of this operation he describes his method. This consists of two longitudinal cuts from before backwards. These cuts are made obliquely from the convex side and are about a half inch apart, passing through both mucous membranes, the lower cut being just above the superior maxillary ridge. To remove the antero-posterior tension, a cross-cut is made converting the two straight lines into the figure H. The points to which he draws attention are, first, that as the curvature of the cartilage from above

downwards gives it a greater width than it could occupy if it were upright in its normal position, the two longitudinal cuts should be so managed as to remove two long slips of the septal cartilage, at the same time being made at an oblique angle, so that the cut edges may slide over each other; second, that the cross-cut of the H should be oblique, extending at right angles beyond both of the parallel incisions, cutting through both mucous membranes and the cartilage, so that in replacing the segments the posterior central segment of the septum will slide forward over its fellow, and the anterior one backwards. It matters little how these cuts are made if the principle upon which they are founded is carried out. The long strips of cartilage might be removed either by drill or swivel-saw, or knife, or ordinary saw of unusual thickness, or any improved instrument specially constructed for the purpose. The cross-cut can be made by either chisel or knife. The immediate result of the combined cuts, when made completely through both mucous membranes and cartilage, is to remove all tension, two rectangular flaps are made by the H incision, the basic blood supply of each being retained, and they can with ease be pressed into the normal position, their edges sliding over each other. The pieces are readily adjusted and retained in position by the use of the invaluable rubber splint, a single one on the convex side being the only one needed.

A NEW METHOD OF TREATING HAY FEVER.—Renault (*Revue hebdomadaire de laryngologie, d'otologie et de rhinologie*, July 21, 1906. *Rev. N. Y. Med. Jour.*, Sept. 22, 1906) reviews the methods of treating spasmodic coryza, which he considers to have an arthritic basis. In fourteen cases he had adopted the suggestion of Brindel, and had made interstitial injections of paraffin under the nasal mucous membrane. In all the cases it had brought about a complete cessation of the symptoms. In this affection, according to Brindel, there is excessive vasodilatation of the erectile tissue of the pituitary membrane, with more or less edema. The hydrorrhea then may be regarded not as glandular hypersecretion, but as really an escape of the serum of the blood through the meshes of congested mucosa. It is this view of the pathology which first led Brindel to institute his treatment. He sought by the injection of paraffin to interpose a mechanical obstacle to the flow of blood into the mucosa. The blood being thus retarded, enters the vessel under lower pressure than before, and in smaller quantity. In consequence, the osmosis ceases, and the hydrorrhea disappears. This ingenious procedure is indicated, according to Renault, only when the nasal mucous membrane is still retractile. It is contraindicated when there is degeneration and hypertrophy of the mucosa and when certain lesions are present in the nasal chambers, such as spurs, polypi, etc., which through reflex action may themselves explain the occurrence of the attacks of spasmodic coryza.

ON THE POLLANTIN THERAPY OF HAY FEVER.—Zarniko (*Berliner Klinische Wochens.*, Sept. 10, 1906).—With every tube of pollantin sent out from the laboratories of the manufacturers there was enclosed a number of questions pertaining to the results, which were to be answered by the patients themselves and returned to the Institute of Hy-

giene at Hamburg. During the past year there were four hundred and ninety-two responses. These letters were turned over to Prof. Zarniko who found that two hundred and eighty-seven were from Europe and two hundred and five from America. In analyzing these reports they were classified under three headings: (1) Those in which a satisfactory result was obtained. (2) Those in which partial relief was obtained. (3) Those in which no effect was noticed. Of the 287 European cases 189, or 66 per cent., came under the first class; 78, or 27 per cent., under the second, and 20, or 7 per cent., under the third class. Of the 205 American cases 113, or 55.1 per cent., were in the first class; 35, or 17 per cent., in the second, and 57, or 27 per cent., in the third class. Summing up these gives a total of 61.3 per cent in which a satisfactory result was obtained, 23.1 per cent. in which partial relief was obtained and 15.1 per cent. of failures. Some of the failures are attributed to faulty application and others to errors in diagnosis.

CLINICAL EXPERIENCES WITH BIER'S ARTIFICIALLY INDUCED HYPEREMIA.—Isemer (*Archiv. fuer Ohrenheilkunde*, Band 69, heft 1 and 2).—After briefly reviewing the reports of Keppler, Heine, Hinsberg, Stenger and Fleishmann, and analyzing the results obtained in twelve cases of supuration of the middle ear treated by Bier's method in the clinic at Halle under Prof. Schwartz's directions, the author reached the following conclusions:

1. The treatment of otitis media by Bier's method of induced hyperemia is not free from danger owing to the fact that as treatment is limited to this procedure the proper moment for surgical interference may pass and the outcome be very unfavorable.
2. More experience will be required in order to determine for what cases this form of treatment is best suited and how long it may be safely continued.
3. This form of treatment seems to be especially dangerous in the so-called cases of diplococcus otitis.
4. Bier's method is absolutely contraindicated in cases of otitis media when there are intra-cranial complications present.

THE REMOVAL OF ADENOID VEGETATIONS THROUGH THE NASAL PASSAGES BY A NEW METHOD.—Freer (*Abs. Medical Record*, Oct. 6, 1906) finds objections to the various forms of curettes and ring knives now so generally employed. He claims that they do not afford clear and sufficient removal of the offending masses; if the latter are at all tough the blade is apt to slip over them. Moreover, the ramifications of the naso-pharyngeal cavity are such that no ring knife, or similarly constructed instrument, will reach them. Hence Freer prefers to operate through the nasal fossæ and has devised for this purpose a slender forceps with a smoothly rounded beak. It is of the general model originally devised by Ingals for the removal of bone in the nose. At first sight it would seem as if the instrument was too large to pass through the nose, but experience has shown that there is no difficulty in this respect. The author employs chloroform anesthesia combined with cocain in 10 per cent. solution and has no difficulty with this combination.

DERMATOLOGY AND SYPHILIS.

IN CHARGE OF

M. F. ENGMAN, M. D.

DERMATITIS EXFOLIATIVA.—Foster (*St. Paul Medical Journal*, Oct., 1906).—This interesting paper was read before the American Dermatological Association in Cleveland. It is a report of four cases of dermatitis exfoliativa neonatorum. The next is a group of cases similar to those described by Hebra as pityriasis rubra, which Foster includes under the general term of dermatitis exfoliativa. This group consists of three cases. The next is a series of five cases which the author calls acute idiopathic exfoliativa dermatitis. The author remarks that there have been recorded typical cases of each of these dermatoses, and where the individual case has remained typical throughout its course might seem that it was a distinct disease. On the other hand, from a careful study of the cases of which he had been able to find complete records, as well as of those he had seen, he was more inclined to believe that in the entire group it is but one disease which runs a different course in different individuals. The leading French, German and American dermatologists believe that there are at least three different diseases in the group, but their arguments to establish this view have not convinced the writer, he being rather inclined to adopt the English view of one disease. He remarks that the etiology and pathogenesis of this disease is not properly understood, and he wishes to include all the clinical types described under the one term, dermatitis exfoliativa. The treatment is entirely symptomatic. Prolonged hot baths and some mild antipyretic oil are the principal indications.

ALOPECIA CONGENITA.—Kingsbury (*Pl Cutaneous Diseases*, Sept., 1906).—The writer, after the study of some cases of this disease and also of the recorded literature, arrives at the following conclusions:

1. That cases are entirely too few and dissimilar to permit of permanent conclusions. He refers to published cases, for doubtless there are many instances of local and relative atrichia which are not reported.

2. Certain reported cases appear to indicate the presence of developmental anomalies of the deepest sort, such as involve the very elements which underlie the differences that subsist between races as the classification of the latter is based largely upon peculiarities of the hair and skin.

3. The frequent coincidence of anomalies of the hair, nails, teeth and skin, together with the hereditary characters of many cases, while not involving the questions of racial characters and atavism, points to deep-seated anomalies of certain tissues which have an intrauterine origin. They must depend in some way upon the pathology of the embryo, a subject which is but little understood. The fact that the epiblast is alone involved in these cases points to some affection of this layer during the early months of intrauterine life.

4. The microscopical findings are rather disappointing. Beyond show-

ing the possibility that in some cases the embryonic substratum of the hair follicles undergoes a complete and early arrest of development, the other observations simply denote that the natural evolution of the hair already under way may be arrested wholly or in part at various periods, by factors which are either unknown or which represent certain conditions of the epidermis, due in some cases to well-understood diseases.

5. On account of the great variability of individual cases, the question of diagnosis, prognosis and treatment must remain more or less obscure. The general diagnosis should be easy; it is only necessary to exclude types of acquired baldness, particularly the characteristics defluvium produced by x-radiation. But diagnosis of special types involving prognosis is much more difficult, and would be influenced by the family history, and, to some extent, by the results of microscopical examinations. There are a few classic cases in which not only the atrichia, but accompanying dental defects seem to have indicated only a retardation of normal involution. Hence it is not strange that writers of a score or more years ago, having but limited material to draw upon, should have given a favorable prognosis for these cases not unlike that of alopecia areata. And the very fact that cures did result at times seems to have led to the assumption of a neurotic origin. With the accumulation of material, however, the hopeless character of the majority of these cases is now generally recognized. But, bearing in mind the few recorded cases of cure, one need not regard this affection as absolutely hopeless, although there is no very satisfactory evidence that treatment of any sort has ever materially modified the outcome. Naturally therapeutic measures directed to an underlying general or local condition would be indicated.

DERMATOLOGY AS A FIELD FOR RESEARCH.—Hartzell (*Jl Cutaneous Diseases*, Sept., 1906).—This is an address by the president before the last meeting of the American Dermatological Association, and it is a subject so little touched upon in general addresses that the article is exceedingly interesting. The writer points out the opportunities for original research afforded by dermatology which have been neglected. He justly remarks that the profession at large is inclined to regard dermatology as a specialty which deals for the most part with trivial affections, and that the dermatologist is one who concerns himself chiefly with cosmetic matters. It is very probable that the dermatologist himself has narrowed his own field. He refers to a paper published a few years ago by a distinguished foreign dermatologist in which sixty pages were devoted to a discussion of the removal of superfluous hair by electrolysis. On account of the opportunity to obtain practically living material for microscopical study and to observe the progress of the skin affection from day to day, this field should be particularly fruitful in research. The cancer problem should receive especial attention by the dermatologist. The peculiar pathology of the circinate eruptions, antagonism, and the study of the local effects of drugs upon the skin, opsonins in relation to dermatology, the study of drug eruptions and known toxins upon the skin are some of the points suggested by the writer for future research.

MEDICAL LAW AND MEDICAL JURISPRUDENCE.

IN CHARGE OF

IRVIN V. BARTH, LL. B.

ACT REGULATING PRACTICE OF DENTISTRY NOT UNCONSTITUTIONAL AS GRANTING SPECIAL PRIVILEGES AND IMMUNITIES.—*Kettles vs. People* (*Supreme Court of Illinois*, 1906), 77 N. E., 472.—Plaintiff in error was charged with violations of an act of the State of Illinois of 1905, entitled: "An Act to regulate the practice of dental surgery and dentistry in the State of Illinois, and to repeal an act therein named."

Several constitutional defenses were interposed. To the defense that the regulation of the practice of dentistry did not fall within the police power the court answered: "That legislation prescribing regulations for securing the admission of qualified persons to professions and callings demanding special skill is within the valid exercise of the police power of the state is not a mooted question, and that the practice of dental surgery requires special skill and training will not be denied by any one."

Attack was directed against Section 3 of the Act, which reads as follows:

"Application from a candidate who desires to secure a license from said board to practice dentistry or dental surgery in this state shall be accompanied by satisfactory proof that the applicant so applying for a license has been engaged in the actual, legal and lawful practice of dentistry or dental surgery in some other state or country for five consecutive years, just prior to application; or is a graduate of and has a diploma from the faculty of a reputable dental college, school or dental department of a reputable dental college, school or dental department of a reputable university; or is a graduate of and has a diploma from the faculty of a reputable medical college or medical department of a reputable university, and possesses the necessary qualifications prescribed by the board." It was contended that the section was unreasonable in that it made all residents of Illinois ineligible to take any examination before the state board who could not present a diploma from some dental or medical college or university, whereas, it made eligible the citizens of other states and countries to take such examination without having any diploma, and as such it was urged that the section conferred special privileges in contravention of the constitution. But the court held that "the provision allowing persons who had been engaged in the legal practice of dentistry for five consecutive years in another state or country to become applicants for permission to practice in this state is only a qualification prescribed by the legislature as a prerequisite to practice in this state, and one which they regarded as sufficient and no doubt equivalent to the qualification placed on the other applicants of producing a diploma of some reputable dental school or college."

Section 4 of the Act conferred upon the board a discretion to determine what is a reputable dental college or school by reference to the standard of educational requirements adopted by the board. This section, too, was upheld on the theory that it did not grant arbitrary powers.

Finally, the constitutionality of Section 5 was assailed because it exempted from the operation of the statute students performing dental operations under the supervision of competent instructors within a dental school, college or dental department of a university recognized by the board as reputable. The court likewise upheld that section, adding that, "the reason for exempting students in reputable schools from the penalty prescribed by the act is that the public good and welfare are sufficiently protected by the fact that the student is at all times under the care, supervision and control of competent instructors."

NOTE: The Missouri Act regulating the practice of dentistry, passed in 1905, is in most respects on all fours with the act considered in the principal case. As in the State of Illinois, so in Missouri, must the applicant possess certain important qualifications before he may be given the privileges of an examination for the license to practice dentistry. It is here provided: "Any and all persons who desire to begin the practice of dentistry in this state after the passage of this Act and who shall have a license from the dental board of another state, or who shall have received a diploma from the faculty of some reputable dental college, duly organized under the laws of this or any other state of the United States, shall have the right to apply to the dental board of this state for examination as to their proficiency; and all successful applicants shall be licensed and registered by said dental board * * * Said dental board shall be authorized to ascertain and determine what shall constitute a dental college or institution in good standing and repute," etc.

In striking contrast with the requirement that the applicant for examination for the dental certificate must have held a diploma from some reputable dental school, is the Act of 1901, in Missouri, regulating the practice of medicine and surgery. Here no diploma from any medical school is required—it is necessary only that the examination be passed. It is required that, "all persons appearing for examination shall make application in writing to the secretary of said board thirty days before the meeting. They shall furnish satisfactory evidence of their preliminary qualifications and shall also furnish evidence of good moral character." There can be little doubt of the soundness of the principal case in holding the provisions of the dental act constitutional. The same legal principles would apply to a medical practice act. The adoption of this higher standard of requirement in the practice of medicine and surgery is a matter of expediency and policy which should receive the attention of the profession.

Unlike the dental act, too, the act regulating the practice of medicine and surgery in Missouri makes no provision for practice by a student under the supervision of an instructor. By the medical practice act of 1883, it had been specifically provided that nothing in that act should "prohibit students from prescribing under the supervision of a preceptor, or to prohibit gratuitous services in cases of emergency." But when that act was repealed by the present act, passed in 1901, it was provided only that the repealing act should not be construed to "prohibit gratuitous service to and treatment of the afflicted." Whatever may be said as to the omission of the feature of the act protecting the student, it is to be re-

grètted that the act of 1901 failed to limit in terms the right of any one to give gratuitous service, to "cases of emergency."

ACTS REGULATING PRACTICE OF MEDICINE CONSTITUTIONAL.—*Spurgeon vs. Rhodes* (*Supreme Court of Indiana*, 1906), 78 N. E., 228.—The court here held: "Statutes prescribing the qualifications of practitioners of medicine and surgery, and otherwise regulating the practice of those professions have been uniformly upheld by the courts as a valid exercise of the police power of the states, infringing no provisions of either federal or state constitutions. Statutes containing a provision like the one in question here, authorizing the board to revoke a license where the holder has been guilty of a felony or of gross immorality, have been held not to violate any provision of the federal or state constitutions. And it has been held that the granting or refusing to grant a license to practice medicine, or the revocation thereof by the board, is not the exercise of judicial power."

NOTE: These doctrines were announced in Missouri in the recent cases of *State vs. Davis* and *State ex rel. MacAnally vs. Goodier*, which were reviewed in the July number of this journal at pages 624-5, and in the April number at pages 385-9, respectively.

The grounds for revocation of license in Missouri are expressed to be for "unprofessional or dishonorable conduct." And it is further provided: "Habitual drunkenness or excessive use of narcotics or producing criminal abortion shall be deemed unprofessional and dishonorable conduct within the meaning of this section, but this specification is not intended to exclude all other acts for which licenses may be revoked."

BOOK REVIEWS.

A TEXT BOOK OF THE DISEASES OF THE EAR, NOSE AND PHARYNX. By D. B. St. John Roosa, M. D., LL. D., Professor of Diseases of the Eye and Ear in the New York Post-Graduate Medical School and Hospital, etc., and Beaman Douglass, M. D., Professor of the Nose and Throat in the New York Post-Graduate School and Hospital, etc. Pp. 621; 108 Figures. New York: The Macmillan Co. Price \$3.00.

The main object in this work seems to have been to show the intimate relationship between the diseases of the ear to those of the nose and pharynx. In this respect the work differs from the others of its class. Aside from this, there are no distinctive features.

The first part of the work is devoted to examination of aural cases and contains some good points, but the tuning-fork tests are but very briefly considered. The C2 fork is the only one mentioned.

The anatomy and diseases of the middle ear with the diseases of the nose and pharynx, which may cause aural affections, are next described. The Ash operation for correction of deflections of the septum is described in detail, but, strange to say, the submucous resection, which has practically taken the place of all others, has not been mentioned.

In discussing the adenoid operation for adenoids, the statement is made that this operation should not be done without complete narcosis unless there is some contraindication for its use. In recent years the trend of opinion has been against general anesthesia.

The intracranial complications of the suppurative diseases of the ear are very briefly considered. The last chapter is devoted to deaf-mutism and mechanical assistance to the hearing, but nothing new is offered.

UEBER AETIOLOGIE UND THERAPIE DES ACUTEN GELENKRHEUMATISMUS. Von Dr. Hans Klatt. Wuerzburger Abhandlungen, VI. Band, 10 Heft. Wuerzburg: A. Stuber's Verlag. 1906.

A brief but interesting discussion of the various theories concerning the etiology of acute articular rheumatism, followed by an account of therapeutic methods. The writer favors the usual salicylate medication while conscious of its failure in obviating heart complications, but looks with especial hope for a confirmation of Menzer's remarkable results with his antistreptococcus serum.

PHYSIKALISCHE THERAPIE IN EINZELDARSTELLUNGEN. Herausgegeben von Dr. J. Marcuse und Doz. Dr. A. Strasser. Stuttgart: Verlag von Ferdinand Enke. 1906.

This is a series of monographs, each by an authority in his special department, which in successive issues is to cover the entire field of physical therapeutics. The four numbers that have been sent in for review consist of an introductory discussion of the physiology of hydro and thermotherapy by Winternitz, a sketch of the physiology and technique of massage by Bum, of electrotherapy by Frankenhaeuser, and of balneotherapy by Glax. The further numbers of the series will be looked for with interest.

CLINICAL DIAGNOSIS: A TEXT BOOK OF CLINICAL MICROSCOPY AND CLINICAL CHEMISTRY. By Charles Phillips Emerson, A. B., M. D. 8vo.; pp. 641. J. B. Lippincott Co. 1906. Phila. and London.

The author was for some years instructor in clinical chemistry and microscopy at Johns Hopkins. His book thus embodies the results of prolonged experience in classroom work and is full of useful suggestions which help the

beginner over difficult places in laboratory technique. It is, above all, a book for students, and yet more advanced workers will find, in brief, most of the methods which interest them. The subject is handled always from the clinical, not from the laboratory, points of view. As the writer well puts it: "The clinical chemist must be, first, a good clinician, and, second, a chemist; he should remember that even from the laboratory point of view his stethoscope is of more importance than his microscope, his percussion finger than his whole outfit of chemical apparatus." The book can be unreservedly recommended.

INTERNATIONALES CENTRALBLATT FÜR DIE GESAMTE TUBERCULOSE. Literatur, herausgegeben von Dr. Ludolph Brauer, Prof. Dr. Oskar de la Camp, Dr. G. Schroeder. Würzburg: A. Stuber's Verlag. 1906.

Two numbers of this new journal have appeared. It consists primarily of abstracts of articles that have appeared on tuberculosis, or allied subjects, all over the world. So far as we know, this is the first attempt at a Centralblatt in this important and rapidly growing field. As is only natural, the abstracts cover the German, less completely the French activity in this field—English and American work so far being nearly entirely ignored. This very feature, however, should make it the more useful to us who need the aid of such a summary, more to keep us in touch with foreign than with domestic publications.

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